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ISSUE 142 SEPTEMBER 2013

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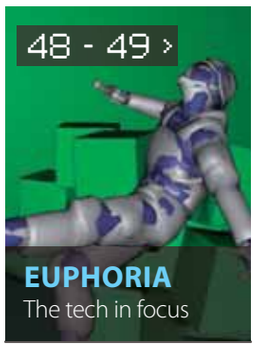
CAGE ON STORYTELLING
The Beyond: Two Souls lead on his latest creation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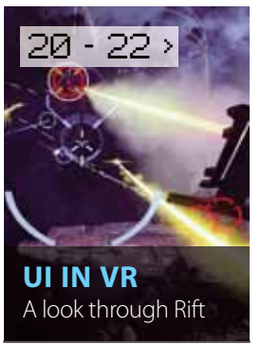
The tech in focus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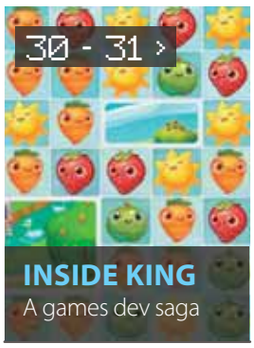
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EDITORIAL

STANDS APART

TEARING THROUGH THE halls at Gamescom this year, longing for the relative calm of sister-event GDC Europe, there was something striking about the hulking booths of the show's consumer areas.

Yes, they have long been gaudy, towering things spewing light and noise as they disgorge t-shirts over crowds. We've all heard about how audacious these things can be. But this year the booths of Activision, Microsoft and the rest seemed grander than ever. And yet, by my count, there were less of them. Sure, the number of exhibiting companies continues to climb at a thriving Gamescom, but in the consumer areas it felt that the simple equation of total hall space divided by an increasing average booth size equalled room for less companies.

Back at GDC Europe, and in Gamescom's tranquil trade-only areas, a plethora of games outfits showed their wares, but for most of the public attending, the event remains a firm show of force for the industry's biggest players.

Which all makes me wonder if the present industry affection for indies and creatively risky games is permeating through to the public as much as we all like to think. Certainly, Sony used Gamescom to reaffirm its championing of indie – which I'm convinced by – but many of the independently developed games on show at its sprawling Gamescom booth seemed a little lost among the crew dancers and chart dubstep. Throughout the consumer halls of Gamescom, smaller titles suffered a similar fate.

Of course, Gamescom increasingly targets a now distinct market; the traditional hardcore gamer. Indies, meanwhile, satisfy the new diversity of player demographics. It would just be nice to see them served by a show with the clout of Gamescom.

Will Freeman
will.freeman@intentmedia.co.uk

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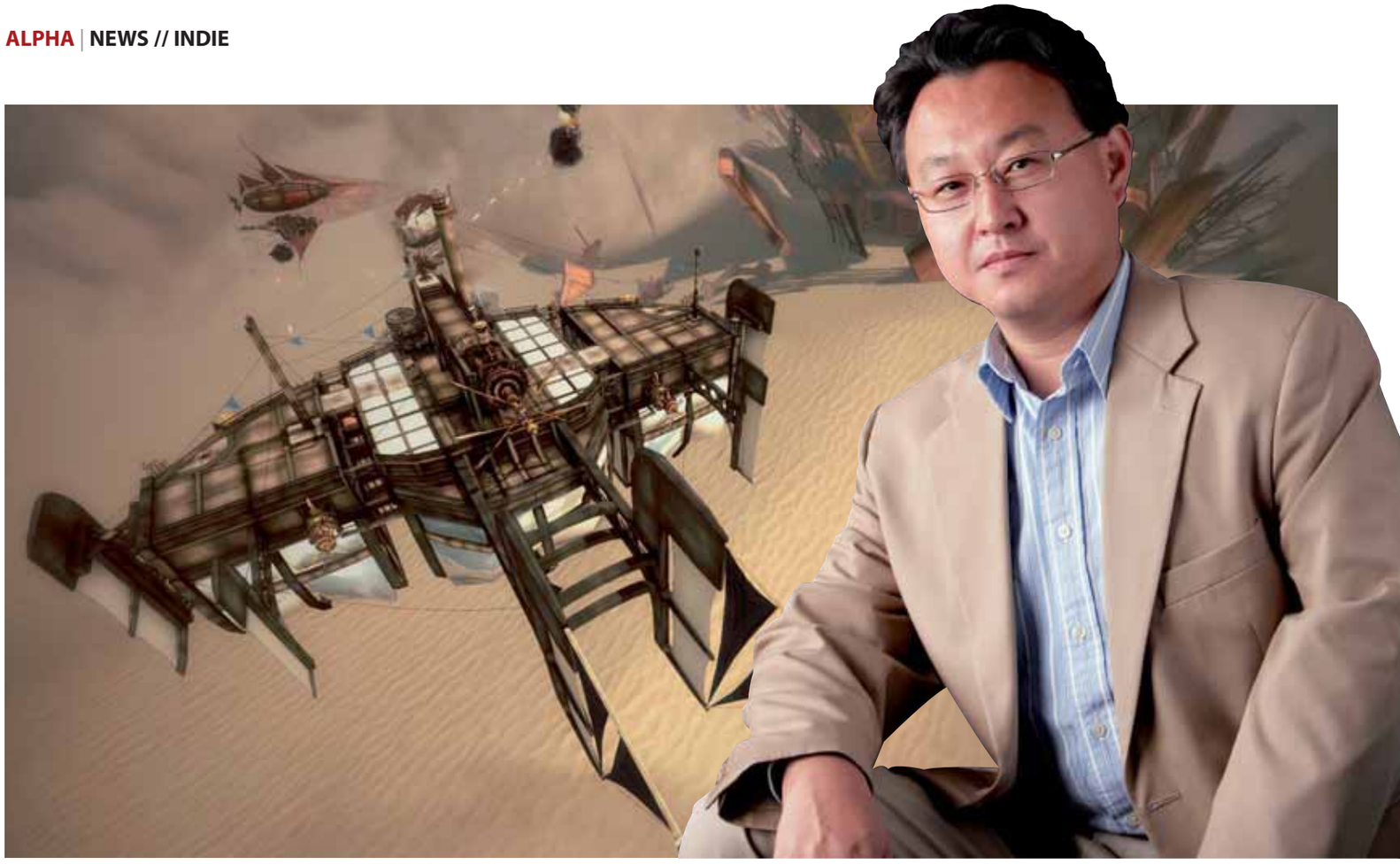


Indie games: The new console killer app?

Sony certainly thinks so, having signed up legions of small studios to make titles for PlayStation 3, 4 and Vita

Sony Worldwide Studios' head Shuhei Yoshida (main) says it is refreshing to work with smaller teams, such as Muse Games, creator of Guns of Icarus (above)

by Michael French

INDIE GAMES, NOT big budget triple-A games, could be the deciding factor on whether consumers buy a PS4 or Xbox One this Christmas.

According to PlayStation, which has signed up and funded multiple games from small studios for its platforms, a growing range of teams from small studios are helping differentiate the competing consoles.

Speaking to *Develop* at Gamescom and GDC Europe last month, senior figures from the firm said the format-holder had changed its strategy to keep up with prolific indie explosion in games development.

"It's refreshing to work with these small guys – they come up with some great ideas," said Sony Computer Entertainment Worldwide studios head Shuhei Yoshida.

"They are typically small teams – some of them are just one person. They don't have to go through all the approvals or presentations we do. They just make things. That's the difference between us and them. The immediacy and that quickness. We are trying to make our platform more accessible. Because they have choices, right? If we make things difficult they can go elsewhere and find another place to put their content."

PLATFORM ENHANCING

PS3 and Vita already has a wide portfolio of games in niche genres or with alliterative ideas not found in triple-A games – and that's growing, with 15 more signings announced at Gamescom for PS4.

The firm is banking on an overall halo effect that diverse content can bring to a console – especially in the face of Xbox's opposition. Sony's rival Microsoft announced its own indie developer scheme at Gamescom, and although running on a later timeline than PlayStation, is promising developers support, two free dev kits and claims that enabling self-publishing on its platform is one of its long-term goals.

> ***"I think Journey is a system seller in terms of the impact it makes. It proves the breadth of the platform."***
>
> Shuhei Yoshida, SCE

Yoshida pointed to previous successes such as 2010's *Journey*, by Thatgamecompany, as proof that consoles can cultivate off-beat ideas – and that that in turn they can grow the audience for video games.

He told *Develop*: "I think *Journey* is a system seller in terms of the impact it makes. It may not be that people buy a PS3 to play *Journey* – but they hear about other people playing it. It proves the breadth of the platform, and I think it proves to non-gamers how broad games can be. That's a wonderful thing."

PlayStation Europe president Jim Ryan was more pointed when talking to our sister title *MCV*: "Those games have definitely been platform enhancing. If two or three [make the impact *Journey* has], you have got something that will definitely be an asset to our platform, and we are in the business of exploiting assets like that."

THE FUTURE'S INDIE

Indie games are a requirement on console in the modern age – and not just because so many developers could potentially defect to other platforms, said Yoshida.

"Development has polarised now – our internal bigger teams are getting bigger and we are not doing many mid-sized games any more. But if we are just doing big budget triple-A sequels the industry doesn't have a bright future. We need new ideas to be tried out. And of course the big teams are trying new ideas too, but the amount of resources needed and the financial risk is so large that they have to set a certain limit. That's where the indies come in," he said.

"In that sense I think there are some relations between the larger triple-A games and the indie boom, because consumers are always wanting something new.

"It's a great way for people to learn too. Some of these studios have release ten or 12 small games in a year – and our teams can spend three years making one game. Indie games have not just been fast; they have quickly learned and got feedback and then gone again." ■

Unity and Autodesk bolster indie-friendly toolsets

Duo of middleware giants debut new offerings intended to make it easier for independent developers to move from concept to market

by Will Freeman

BOTH UNITY AND Autodesk have used the former's Unite conference to debut new products and services suited to independent and small development teams.

Unity has revealed an expanded publishing operation, a new update to its popular engine to better support the creation of 2D titles, and a new cloud service.

Autodesk, meanwhile, has debuted Maya LT, which sees the tech company's prolifically adopted tool modified and re-priced with independent studios in mind.

A NEW UNION

Unity used its Unite keynote address to detail its reworked publishing model, which expands on the Union program, and will operate as part of its content syndication arm Unity Games. The publishing operation will see the tools outfit select and publish Unity-authored releases, starting with mobile titles to be launched this Autumn.

"We've worked hard over the years to create a technological canvas that allows developers of all sizes to realise their wildest creative visions," said David Helgason, CEO of Unity. "Now, thanks to our unique combination of developer trust, technological leadership, newly announced Unity Cloud services, and strong relationships with key distribution partners, Unity Games is in an awesome and unique position to make a hugely positive impact on the lives of games developers."

The new Unity Cloud service, currently in beta, will offer users of the company's engine optional use of a suite of online services focused on acquisition, promotion and monetisation, and will integrate with the new publishing offering.

Finally, the team at Unity have unveiled new 2D tools and workflow for the existing engine and editor, so as to meet increased demand from developers for more functionality centred on two-dimensional games.

"Unity can and has been used for the development of many amazing 2D projects, but we knew that it could be better," explained Helgason. "So we are taking a leap forward by introducing fundamental tools to make Unity a truly great 2D engine."

The effort to improve workflow includes the debut of a dedicated scene view, which introduces with it specialised 2D scene manipulation tools. Many of the elements of the 2D update, due this year, will be available with the free version of Unity.

AUTODESK FOR THE PEOPLE

As Unity announced its trio of new offerings, tools company Autodesk also detailed Maya LT 2014, available with immediate effect. Delivered as a new build of Maya tailoured and streamlined for small teams, the LT edition includes a range of 3D modelling and animation tools, and includes integrations with Unity and Epic technologies through the FBX file format.

"We see indie game developers as a key part of the industry, driving innovative new production techniques and gameplay," said Chris Bradshaw, senior vice president of Autodesk Media and Entertainment. "The market is fiercely competitive, and Maya LT can provide indie developers and small studios with a powerful, yet simplified workflow for designing and animating remarkable 3D characters, environments and props."

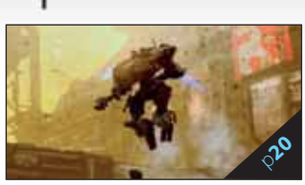
Autodesk Maya LT 2014 is available for Mac and Windows, with a starting licence price of $795. Other options will soon be made available, potentially taking the price down to as little as $50 per month. ■

> ***"We've worked hard over the years to create a technological canvas that allows devs of all sizes to realise their wildest visions."***
>
> David Helgason, Unity

Unity's David Helgason (above) and Autodesk's Chris Bradshaw (left), see their new offerings for indies as enablers

develop iPad

Videos are available within the iPad Edition of **Develop** on iTunes and the Browser-based Digital Edition, which can be accessed at **develop-online.net**



THIS MONTH: Behind the scenes on Beyond: Two Souls **Eve Valkyrie in motion** A close look at Unreal Engine 4's layered materials pipelines

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DEVELOP DIARY

Your complete games development event calendar for the months ahead

DEVELOP QUIZ
September 18th
London, UK
www.develop-online.net/events

Quiz teams, assemble.

At this September's quiz, expect more outlandish trivia to challenge your specialist and general knowledge, as you and your chums fight to bring honour and glory to your studio.

Teams from Jagex, UKIE, Datascope and more are in the mix once again to be proclaimed as quiz gods of the gaming pantheon.

The Develop Quiz will take place on September 18th in Holborn, London.

SEPTEMBER 2013

GAME MUSIC CONNECT 2013
September 9th
London, UK
www.gamemusicconnect.com

GDC CHINA 2013
September 15th to 17th
Shanghai, China
www.gdcchina.com

DEVELOP QUIZ
September 18th
London, UK
www.develop-online.net/events

TOKYO GAME SHOW 2013
September 19th to 22nd
Tokyo, Japan
tgs.cesa.or.jp/english

DICE EUROPE 2013
September 24th to 25th
London, UK
bit.ly/14l3109

OCTOBER 2013

CLOUD GAMING USA 2013
October 7th to 8th
San Francisco, USA
bit.ly/17AFp7R

GAME MARKETING EUROPE 2013
October 14th to 15th
London, UK
bit.ly/10RFNu8

GAMECITY 8
October 19th to 26th
Nottingham, UK
www.gamecity.org

APPS WORLD EUROPE 2013
October 22nd to 23th
London, UK
www.apps-world.net/europe

BRAZIL GAME SHOW 2013
October 25th to 29th
São Paulo, Brazil
www.brasilgameshow.com.br

NOVEMBER 2013

GDC NEXT 2013 & ADC 2013
November 5th to 7th
Los Angeles, USA
www.gdcnext.com
www.adconf.com

BLIZZCON 2013
November 8th to 9th
Anaheim, USA
www.blizzcon.com

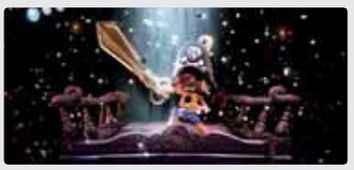
LONDON GAMES CONFERENCE 2013
November 13th
London, UK
www.londongamesconference.com

SOCIAL GAMBLING & GAMING SUMMIT 2013
November 21st
London, UK
bit.ly/19z4MZA

THE MONTH AHEAD

A look at what September has in store for the industry and beyond

SEPTEMBER 6TH
Killzone: Mercenary.
In bid to raise Vita's hopes, the rugged FPS thriller *Killzone* arrives on the handheld.



SEPTEMBER 13TH
Puppeteer.
Avoid getting your strings in a knot in this wonderfully stylish side-scrolling platformer.

SEPTEMBER 18TH
Develop Quiz.
To the victors, the spoils. Put your thinking caps on for another high stakes quiz.

SEPTEMBER 25TH
Women in Games Conf 2013.
Create Your Future is the theme of this year's conference for women in the games industry.

SEPTEMBER 9TH
Game Music Connect 2013.
This inaugural celebration of music in games features talks from composers and live music.

SEPTEMBER 15TH
GDC China 2013.
The sixth GDCC takes place in Shanghai again to bring devs from the Far East together.

SEPTEMBER 19TH
Tokyo Game Show 2013.
The games circus of the Far East opens, as the next-gen consoles find their feet on Japanese soil.

SEPTEMBER 27TH
FIFA 14.
Balance and movement are EA's talking points for this year's FIFA. Oi! Quit your fouling, Bastos.

SEPTEMBER 13TH
Kingdom Hearts HD 1.5 Remix.
Ahead of its third core outing, Square has reissued its Disney-collab that started the series.

SEPTEMBER 17TH
Grand Theft Auto V.
Don't look so surprised, Michael. You've got a starring role in Rockstar's latest crime thriller.

SEPTEMBER 24TH
DICE Europe 2013.
The AIAS' summit on all things interactive has its first ever European event in London.

SEPTEMBER 30TH
International Blasphemy Day.
A day for venting your views on religion. We don't give a damn if you join in or not.

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PLACING PROFESSIONAL PEOPLE IN PROFESSIONAL PLACES

Capital ideas

Find out how to make a hit game at November 13th's London Games Conference

EXPERTS FROM PLAYSTATION, Twitter and Twitch – plus leaders from esteemed studios such as Revolution and Sports Interactive – will share secrets on how to make a hit game this November.

The first eight speakers for the London Games Conference 2013 have been announced, with the event aiming to dissect every step needed to create a hit game.

Speakers include SCEE's Shahid Ahmad, who works in SCEE's Strategic Content team, and has signed a number of new and upcoming developers to make PlayStation games. He will describe how fantastic tools, digital distribution and gaming everywhere means there has never been a better time to make a game.

Now in its fifth year, LGC is the only games conference dedicated to giving you a total overview of the games market and making a hit game – from initial idea to shipping, marketing and post-release content. LGC is the UK's single biggest games conference. Tickets include a four hour conference and post-event dinner and networking.

Book your tickets via **www.londongamesconference.com** or contact Intent Media's **Sara.Mather@intentmedia.co.uk**.

lgc london games conference 2013

LGC 2013 SPEAKERS

The Indie Revolution
Shahid Ahmad, Strategic Content team member at Sony Computer Entertainment Europe, describes how with fantastic tools, digital distribution and gaming everywhere, there has never been a better time to make a game.

What gamers are talking about
Bruce Daisley, UK director, Twitter UK will share new insights around game trends, based on terms and time of day. He will share case studies from games publishers who are getting Twitter right, and describe what best actions can grow followers and engagement.

Google and games
Ross Brockman, strategic partner lead, mobile and games, delivers a single snapshot of all the ways the Google ecosystem touches the games market, and the opportunities it presents for the games industry.

The whole world is watching... the explosion of video games video
Twitch CRO Jonathan Simpson-Bint will share the rapid audience growth and user behaviours around video streaming and show what it means for both game experiences and marketing opportunities.

Building a community and keeping track
With its *Football Manager* series continuing to grow in strength, Sports Interactive's studio director Miles Jacobson, will share business insights around creating thriving communities, unique software piracy and usage data.

Sharing great stories on Kickstarter
Revolution founder Charles Cecil on how the KickStarter campaign for *Broken Sword: The Serpent's Curse* adventure got 14,032 backers, almost doubling its funding target. A brilliant lesson on how best to engage with your core audience.

Building the perpetual franchise
David Reid, CMO at CCP Games, will share the secrets of how they've kept the *Eve* universe growing for more than ten years. CCP's business strategy is to build communities through virtual worlds that elicit personal experiences more meaningful than real life.

Games and age ratings
Simon Little, managing director PEGI will share the challenges of maintaining and communicating a games age-rating system in the digital era.

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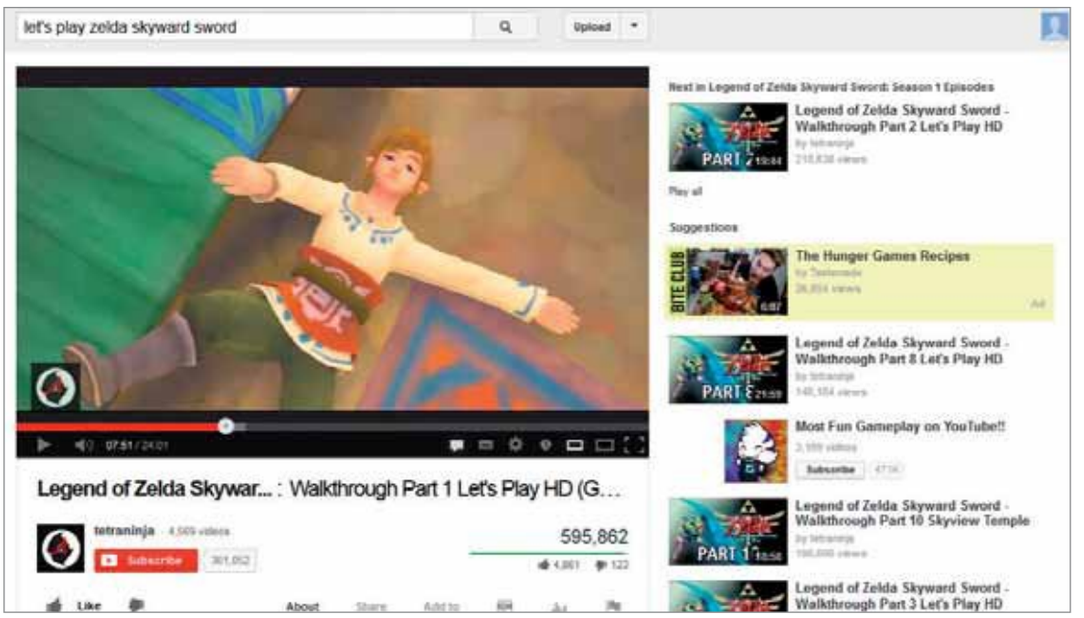
//COMMENT: BUSINESS

The eight-day game video war

Rick Gibson assesses the uncomfortable relationship between user-made game videos and copyright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Legend of Zelda Skyward Sword - Walkthrough Part 2 Let's Play HD
Play all
Suggestions
The Hunger Games Recipes
Legend of Zelda Skyward Sword - Walkthrough Part 8 Let's Play HD
Most Fun Gameplay on YouTube!!
Legend of Zelda Skyward Sword - Walkthrough Part 10 Skyview Temple
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Above: Just one of dozens of Let's Play videos for Skyward Sword, which Nintendo wished to claim revenue from. It's been a tough lesson for the Zelda-maker, Gibson says

WHEN NINTENDO COMMANDEERED the ads on some Let's Play YouTube videos featuring its games in May, it drew a line in the sand: you cannot make money from our copyright. When the least online-savvy console wakes up to the threats and opportunities of online video, you know games video has become a major issue for the industry. This month, let's take a look at the rise, impact and potential of games video online, and what Nintendo discovered.

Video now outstrips games as the fastest-growing entertainment medium, driven by stratospheric online growth rates. Online video revenues grew 60 per cent each year from 2010 to 2012 to hit £7.4 billion, and could reach £19 billion by 2017 as half-a-billion homes watch video and television online (Digital TV Research). Powered by advertising, this booming market encompasses everything from video on demand and internet-delivered TV to the user-generated video sub-sector.

VIDEO STARS

Eighty per cent of online video viewers use YouTube and gaming is its second most popular genre. With usage rising 30 per cent every year, video of video games reaches huge audiences and tens of billions of video views. Games companies' video output currently wins only a small fraction of that audience. Most console manufacturers and publishers simply upload existing marketing footage to pretty static YouTube channels. Some, like Activision, Sony and Bethesda, are more adventurous. Sony, for instance, is innovating with a gamified PS4 campaign featuring badges and themes won by finding Easter eggs buried in the video.

The vast majority of games videos are watched via new channels, most but not all on YouTube. Alternative video networks like Daily Motion, Vimeo and Twitch, which marries Korean *Starcraft* tournaments with sports commentary, reach millions per day, but YouTube still dominates and its largest games provider is Machinima. Over the last decade Machinima has evolved from creating animations using game engines to be the most watched multichannel network in YouTube's history, with over 4.4 billion views from a total of over 20,000 videos from around 5,000 video producers. It has added original programming, cut-scene movies, film tie-ins, coverage of every core game genre and community features. Its sheer scale attracted investment from Google and the company has repeatedly partnered with games publishers and console manufacturers.

> ***YouTubers are now treated no differently than other media that make money from covering games. They may well be more influential.***

These days, most games videos watched on YouTube however are Let's Play videos. Tens of thousands of players ('LPers') screengrab in-game footage to provide game reviews and walkthroughs, often with humorous commentary. YouTube's second most subscribed up-loader is Swedish PewDiePie, whose bizarre commentary over horror and action games has won him over two billion views. Yogscast, a 40-strong UK-based collective, is larger, with over three billion views and a three million-strong daily audience.

THEY PLAY, YOUTUBE PAYS

Yogscast, PewDiePie and countless others do what they do because YouTube shares ad revenues, which can generate anywhere from 30p to £5 for the uploaders for every thousand views depending on performance and ad type. This is the revenue that Nintendo targeted, arguing successfully with YouTube that uploaders infringed copyright by making advertising revenue from videos featuring its games. Nintendo began fingering popular examples of such videos to YouTube which then reallocated all the uploader's ad revenues.

LPers were up in arms, starting a campaign to kill the policy, which apparently lasted a total of eight days. PR-sensitive NoA may have relented after coming under sustained social fire from influential vloggers. It is also likely that the modest ad revenue it gained during the period could not outweigh the cost of trying to identify thousands of new infringing videos every day.

The volte face probably came too early to reveal any negative impact on sales but there would have been one in time. Billions of Let's Play videos have had a significant and measurable impact on games sales, a prime example being *Minecraft*. A 2011 academic study found that one third of *Minecraft* players found out about the game via online video; the same proportion discovered via friends. If that trend continued, and with 83 million YouTube search results there's no reason to fear it hasn't, that equates to seven million sales of *Minecraft* on all platforms.

Nintendo, after some legally-advised blundering, made the right play, following a well-worn path taken by other publishers who figured out belatedly which side their bread was buttered on. YouTubers are now treated no differently than other media that make money from covering games. They may well be more influential, particularly for certain demographics. What was technically a breach of copyright turned out to be the best kind of marketing – the free kind. ■

Rick Gibson is a director at Games Investor Consulting, which provides commercial check-ups, strategy and data to games, media and finance companies.
www.gamesinvestor.com

//COMMENT: STUDIO MANAGEMENT

Wanted: Captain for a gifted crew

Tim Heaton on why restoring leadership at Relic has been central to the studio's survival

I'M WRITING THIS on a wonderfully sunny day in one of the most beautiful and welcoming places in the world. It's not Horsham, home of Creative Assembly. It's Vancouver, home of Relic, our new sister studio, and at last I'm feeling like my head is above water.

I'm here because I was keen to get involved with a studio that has so many similarities to CA. What actually happened was that I said: 'Hey, you know, if you need any help with Relic just let me know', and the Sega bosses came back with, 'Yeah, get yourself an apartment there for the year'. So, for the past six months, I've been splitting my time between CA and Relic – three weeks here and three weeks back home on average. And you know what? Running two studios is twice as hard as running one. Who knew?

UNDER NEW MANAGEMENT

On my first visit to Relic two things dawned on me through the mists of jet lag. That there was a game to deliver – *Company of Heroes 2* was to launch at the end of June, and that there was very little studio leadership. The previous general manager of Relic had left well before the purchase of Relic by Sega, and although there was an executive producer on *CoH 2* that was pretty much it. Nobody was leading the studio in a game-centric way from the front.

I think there are three strands that are important when you're establishing a new infrastructure. Firstly, keep the day-to-day operations running as smoothly as possible. Secondly, be very clear in your own mind on the plan for the future. Thirdly, try your very best to communicate to the studio about what's happening and what those plans are.

Happily, within the studio all the back-office key staff were in place. HR, finance, IT, recruitment, etcetera, already worked smoothly, but each had a mountain to climb to implement new systems that would work with Sega. This hits every part of a studio's day-to-day activities, from new telephones, through payroll systems, to new contracts for staff. Equally, *CoH 2* needed to transition from THQ QA and localisation to Sega QA with new publishing producers and procedures. Luckily, the dev team here is full of experienced developers, who know how to maintain focus on what is important, and that changeover was surprisingly straightforward. The development team just kept working and needed virtually no interference from me. A very good sign.

In addition, I received an email out of the blue that effectively said, 'Hey, you might not know me, but I accepted a job at Relic during the THQ days. I'm due to start next week. Do I still have the job?'. That person turned out to be a director of production, an experienced leader who could come in and work with me on figuring out the new Relic, and be the person on the ground when I was back at CA. It was perfect – had she already been integrated at Relic, I have no doubt she'd have been heavily involved in finishing *CoH 2*, but as it was she had as fresh a view as myself.

IN SEARCH OF A NEW CAPTAIN

The key hire and my single biggest priority was hiring a new general manager. The studio needed a leader who could instil them with a newfound confidence, both a business leader who can make the studio profitable, but also someone who could be empathetic to Relic's core values. That person could definitely not be some Brit who just flies in every few weeks looking tired. Luckily, Relic's good name opens a lot of doors. We weren't sure how hard we'd need to look for the kind of manager we wanted, but very quickly we had approaches from some exceptionally senior, experienced and clever people. For me, it's both fun and a privilege to meet people like this, as in the general run of things I don't get much opportunity, and this kind of meeting means we can discuss how different people approach their job. After quite a few lunches we knew we'd found the right person – the perfect blend of leadership, experience and empathy.

The dev team at Relic knew precisely what had to be done during the transition from THQ to Sega, but new leadership has been crucial for keeping it strong, says Heaton

Possibly the most important part of this whole last six months has been to try and keep the studio understanding what the plans are.

With a new general manager just recently in place it's much easier to manage the bigger issues across CA and Relic, and I'll probably be spending more and more time back in blighty. One thing's for sure – everyone at Relic has made me feel extremely welcome, and the new future for Relic is very bright. ■

Tim Heaton is studio director at The Creative Assembly, the UK-founded studio behind the acclaimed *Total War* series of PC games, as well as numerous other works including original and licensed products. **www.creative-assembly.co.uk**

//EXTRA CONTENT ONLINE

"You've seen – and no doubt been underwhelmed by – 3D movies and TVs, and you don't particularly fancy the idea of looking like an idiot with a heavy box on your head. But you're missing out on a truly incredible experience."

Patrick O'Luanaigh, nDreams

"We need an economic recovery that sees job creation and prosperity throughout the UK. Encouraging business clusters can contribute to this strategy. This approach can also support the growth of sustainable indie devs."

Richard Wilson, Tiga

"A few months ago, it was announced that I would be the V&A's first game designer in residence. The announcement caught a lot of media attention, so I wanted to write a blog post to express my thoughts about the project."

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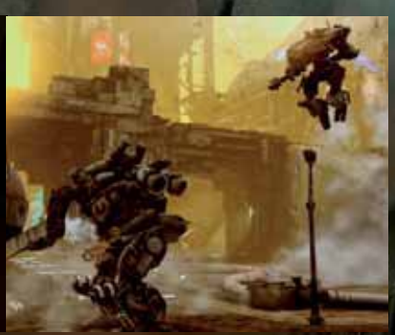
Above and Beyond

David Cage explains how far the Quantic Dream team have gone to push their new game's storytelling ability, p14

When UI meets VR p20



100 tips from the Develop 100 p24

The Quantic Dreamer

David Cage is a games design luminary with a knack for wooing the mainstream with unconventional concepts. **Christopher Dring** talks to the man about his current work, Beyond: Two Souls

Quantic Dream founder David Cage (above) is known for taking the unconventional route when it comes to games

HEAVY RAIN HAD a huge impact upon consumers. But do you feel it has really had the level of influence on the wider games industry that you had hoped for?
Being influential has never been a part of my objectives. I follow my instinct and make games by passion. With *Heavy Rain*, I was just hoping that the game would be successful enough to let me continue explore this path. Our industry is so crowded with games based on violence that proposing an experience where characters have no gun was already a challenge by itself.

Actually, the reaction of the industry came as a surprise. Seeing many talented game creators sharing their enthusiasm for the game was a great honour. Still, today *Heavy Rain* is often mentioned as an influence for future titles. I was certainly not expecting anything like that. The game has not changed the industry of course, but it showed that a different approach to games was possible, and that the market was ready for that.

On that note, it seems that Quantic Dream regularly defies what we expect from video games. Why can you do it, when other developers appear afraid to?
I have always been incredibly lucky in my career to meet people who trusted me and allowed me to develop my ideas. Since *Heavy Rain*, Sony has been a fantastic partner, giving the time and resources I needed to make the games I wanted, while giving me total creative freedom. I honestly don't know what I did to be in this situation. I am someone sincerely passionate, I am a hardworking person and I always had clever and talented people working with me at Quantic Dream.

> ***"In 16 years running Quantic Dream as a CEO, the one thing I learned is to never listen to businessmen."***
>
> David Cage, Quantic Dream

I am also stubborn enough to stick to what I believe and not change my mind every five minutes, which allowed me to keep working on emotional experiences when everybody thought it was a stupid idea. I also try to listen to people around me when they show me that I am wrong.

When you stick for so long to an idea, you have a chance that one day it pays off; if you don't die before. I realise how lucky I am at the moment, but I am also clearly aware that this is a very fragile situation: I take so much risk with each that I can lose everything in one game. My creative freedom and my independence entirely rely on the fact that each game is successful enough. You are free as long as your games sell enough or receive some sort of critical acclaim.

Moving onto *Beyond*, where did the idea for that game first form?
Like many people, I have been confronted to the loss of someone in my family who passed away. This experience was a real shock, so I needed to find a way to make something positive out of it. I started thinking about life, its meaning – or lack of meaning – how we grow up, how we learn and change through the years, how we become who we are, until the day we die.

Of course, it is impossible to summarise the experience of a life in a game, but I thought it could be interesting to try to create a journey into the life of someone. I also wanted to talk about death and what's on the other side under a different light and give my own version of what awaits us after we die. All this sounds like serious themes for a video game, but we tried to make *Beyond* an entertaining emotional experience with some meaningful moments.

Cage talking at the Tribeca Film Festival 2013, where Beyond was screened for the first time

Have you had to make any major changes or concessions to the original vision during the game's development?
I don't really think that way. A project is a living thing, it grows, it evolves, it finds its own voice, and this is what will ultimately make the originality and the strength of the final experience. What matters the most to me is that the original intention of the script remains intact, even if it takes a different shape or colour than what I first imagined. Usually, projects become much better than what I hoped for, just because there is this strange magic happening during development, the moment where the talent and hard work of the team make all the pieces of the puzzle finally come together.

The only real concessions that I make are for censorship. After twenty years in the industry, I still don't understand why there are different censorship rules for video games than for films or TV. I think we still need to work to explain our medium better and be respected as any other art.

What's been the biggest challenge you've faced in creating the game?
To be honest, pretty much every single aspect of this game has been a massive challenge. *Beyond* is by far the most ambitious game created by Quantic Dream, and I feared many times during development that this time we put the bar a little too high.

We had technical challenges to address, with a completely new engine and the desire to push the PS3 as far as we could. The idea of having an entity that could fly around and go through walls forced us to think totally differently about rendering and memory optimisations. We didn't want loading screens during scenes so everything is continuously streamed to always get the highest graphic quality with a maximum of diversity whatever the player does, in sets that are not formatted and very diverse.

The complexity and the diversity of the project have been incredible challenges too, requiring a year in shooting with 160 actors, about 50,000 unique animations, 20,000 unique camera shots. In *Beyond*, each second of each scene is unique in the game, which means that polishing and tuning the game required an insane amount of work.

But if I had to resume all these challenges in one word, I guess it would be 'emotion'. My goal through the development was always that tech, production, art, acting, music, everything goes in the same direction to create the intended emotion for the player. It was definitely the most interesting part of the work.

What makes Ellen Page's role in *Beyond* more significant than that actors offer other video games? Were you inspired by Andy Serkis' involvement with *Enslaved: Odyssey to the West* at all?
The idea of two characters, one being a human, the other being a spirit or a ghost, is a very old idea that has been used many times before. You can think of guardian angels too, which is a very popular urban legend, and many books or films have explored this idea. I was interested in having my own approach to this theme and see what I could do with it. What I liked about the character of Jodie Holmes was that she was really unhappy about the situation: all she wants is to be like everyone else, but the presence of this 'thing' always around her forces her to adapt and lead a life she doesn't like. Aiden, the entity, is not a power or a pet, he is a character with its own personality. He can be very nice and protective to Jodie, or he can be very violent, possessive or jealous. He doesn't understand the rules in our world, he thinks that Jodie belongs to him, which creates conflicts.

Actually, the entity is the part of Jodie she wishes she could change, the thing that prevents her from leading a normal life, the thing that she needs to accept and learns to live with. Even if most of us do not have a link with an invisible entity, we all have our Aiden, the thing in us that we need to accept because we cannot change it. This is what *Beyond* is about, what will hopefully make the game resonate with players by evoking themes and situations they feel familiar with.

> ***"I started thinking about life, its meaning, how we grow up, how we learn and change through the years, how we become who we are, until we die."***
>
> David Cage, Quantic Dream

You've said numerous times that casting Ellen Page was not a marketing decision. But is mass appeal and sales something you consider when you make your creative decisions?
I hope that my publisher won't read this interview, but, no. Actually, I don't think you can be creative if you have a marketing plan in the back of your mind. To create something, you need to trust your instinct, discover something you find unique and exciting, something that will make you work incredibly hard with a smile, something that will justify that you sacrifice three years of your life. It has to be strong, moving, rich, surprising, it has to be something you absolutely believe in up to a point you could bet your life on it.

If you can find an idea like that, if you are sincere all the way creating it, there is a good chance that other people will feel the same about it. It may sound like a very naïve business approach, but it kept me alive in the industry for the past 16 years. ▶

Beyond: Two Souls, Quantic's latest project, starring Ellen Page, will follow its lead character, Jodie, across different stages of her life. Above, she is homeless, busking on the streets

***Beyond* stars Hollywood actors, such as Ellen Page and Willem Dafoe, and it even received an extensive showing at the Tribeca Film Festival earlier this year. Why are you so keen to associate this project with the film industry?**

I am not particularly looking for links with cinema, but I don't refuse them when they happen. There was this opportunity to present *Beyond* at the Tribeca Film Festival as a part of the official selection, which was a worldwide premiere for a video game. I saw this invitation as an honour from a parent industry with which we have a lot in common. *Beyond* is a story-driven experience featuring talented film actors and aiming at triggering emotions, we were very excited at the idea of showing our work on a big screen to movie fans and hear what they think. We came here with a lot of humility and respect, being absolutely conscious of the distance that separates us from films, but also proud of working on such an amazing medium.

The reception has been fantastic. There should be more opportunities for our two worlds to communicate because we have a lot in common and definitely a lot to share. People who think that video games should grow in complete isolation from the rest of the world make a mistake: we have so much to learn from films, theatre, poetry, music, literature and art in general. We should keep our eyes and ears open and welcome all collaborations with people from the outside, because this is how we will grow and make better games in the future.

When you presented *Beyond* at E3 this year, showing more action-heavy sequences with Jodie in training before beginning a mission, many were quick to say that it looked much like a stereotypical war game. Was that deliberate?

All people who are familiar with my work know that I am incapable of making a stereotypical war game. There are so many developers doing that very well, but this is just something I am not interested in. The scene we presented uses the context of a conflict zone but it is not about war or shooting at enemies, but about story and emotions. I cannot talk too much about it so as not to spoil the story, but although the scene may look from far like another action game, it has more to do with *Heavy Rain* than with *Call of Duty*, as you can imagine.

> ***In Beyond, each second of each scene is unique in the game, which means that polishing and tuning the game required an insane amount of work.***
>
> David Cage, Quantic Dream

Showing this scene was a very interesting experience for me at many levels: it proved how gamers are used to mechanics. When you show them a character with action mechanics, they immediately think that this is the game and that they will just get 20 levels doing the same things.

Beyond is not built that way. Each scene is completely different not just in matter of setting but also in matter of what you have to do. This action scene is for example the only one of this type in the entire game. When you want to tell the story of someone through 15 years of her life, you cannot have your character doing the same things in each scene for those 15 years.

So there is a scene where Jodie is a kid, a scene where she is homeless, a scene where she is a fugitive on the run, a scene where she is an agent in Somalia, and many other scenes, and each scene is unique and different, each scene offers a different situation and different gameplay.

Finally, you're releasing a new IP at the end of a console cycle. Businessmen might say this is something you shouldn't do. What makes you think otherwise?

In 16 years running Quantic Dream as a CEO, the one thing I learned is to never listen to businessmen. I remember a discussion with the president of a major publisher in the 90s telling me that PlayStation 1 would just be a trend that would die in the next six months. He thought PC was the future. We know what has happened since then. So I don't listen to businessmen. I just trust my instinct. ■

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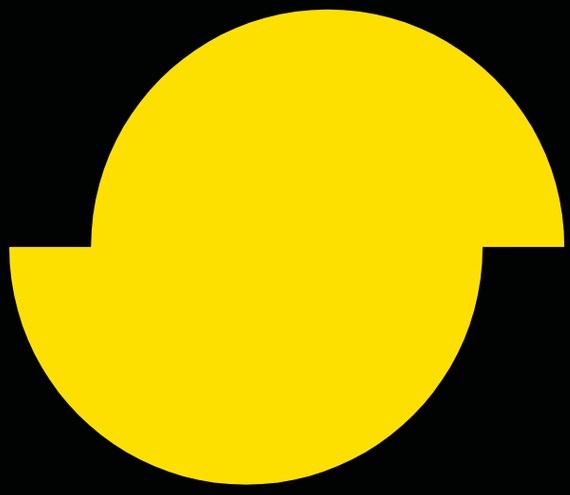

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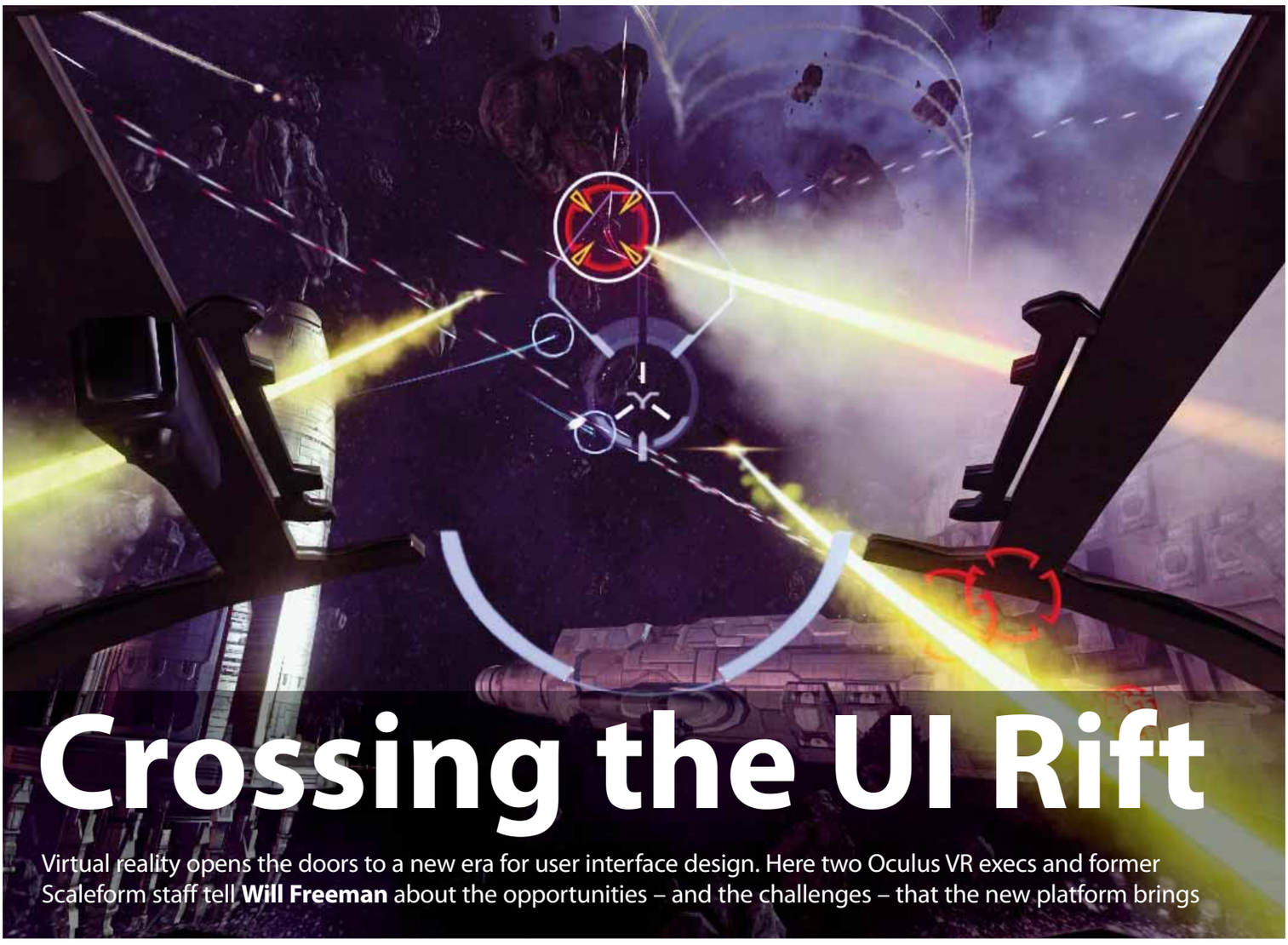

Crossing the UI Rift

Virtual reality opens the doors to a new era for user interface design. Here two Oculus VR execs and former Scaleform staff tell **Will Freeman** about the opportunities – and the challenges – that the new platform brings

Think more Iron Man than Minority Report. EVE Valkyrie (above) displays the kind of UI elements that could become commonplace in VR user interface design

VIRTUAL REALITY DOESN'T present user interface design with its first opportunity for transformation.

The dawn of 3D long ago afforded games makers the prospect of moving beyond flat heads-up-displays and conventional menus. And when mobile gaming finally realised its potential with the arrival of smartphones, those charged with implementing UI had a chance to establish the new standards of the virtual gamepad.

Neither presented an easy transition, and for many releases orthodox menu design remained the best option. Mobile games makers wrestled with how to balance UI button placement with the problem of players' fingers obstructing the screen, while those crafting 3D console games faced the difficult task of rewriting the broader grammar of user interfaces.

Those are challenges yet to be fully answered, and now – predominantly thanks to the arrival of Oculus Rift – a vast new opportunity is here with the advent of a new kind of VR. Of course, virtual reality has lurked in the badlands of the technology industries for decades, but with Oculus Rift, for the first time it looks set to make its way to consumers in a meaningful way. The technology has arrived and it's already won the support of big names, such as John Carmark. So it is VR games that will walk hand-in-hand with Oculus Rift as it saunters into the public's collective conscience.

CHANGE IS ON THE MENU

The fact is that VR games need a new type of UI, as they are delivered in a new way. The challenge is similar to that faced by film and game makers as the recent wave of new stereoscopic 3D technology arrived in homes and cinemas. And equally, it is also a substantial opportunity.

> ***"When you suddenly have VR available to you, you have so much more area to play with. You're no longer confined to 2D."***
>
> Brendan Iribe, Oculus VR

Two games industry professionals that know that opportunity are Oculus VR's CEO Brendan Iribe and vice president of product Nate Mitchell. Both previously served at Scaleform, the provider of the industry's most prolific UI middleware, which was eventually picked up by tools giant Autodesk.

"I think one of the most impressive things about VR is just the ability to have a sense of presence in a gameworld; that feeling that you are really there," says Mitchell as he begins to explain how UI may evolve with Oculus Rift. "Until now players have seen HUDs and flat menus, and I think the that opportunity with virtual reality here is evident already in the best early VR UI today, where they are really taking cues from the real world, or perhaps the dreams of the future."

According to Mitchell, games makers only need to look to Google and Microsoft's work with augmented reality, and the UI already being conceived for unusual hardware like the spectacle-shaped Glass. Those developments, say Mitchell, are serving as an inspiration to the first wave of games developers building titles for Oculus Rift.

"Developers are starting to look at UI in VR spaces in terms of how they would want to interact with that world in real life, and take information from objects in that world," Mitchell adds.

VIRTUALLY REAL

Virtual reality is, of course, defined by its ambition of simulating real life, which is exactly where developers should look for inspiration when designing UI for Oculus games, suggests Iribe. There is arguably no UI in real life, but still, we garner information from the world around us through signage, digital displays and the devices that let us interface with our environment, and games developers now have the opportunity to reflect that in games.

"When you suddenly have VR available to you, you quickly have so much more area to play with," explains Iribe. "You're no longer

confined to a small 2D screen anymore, and you also have a number of new mechanics to work with.

"It's no longer about just a keyboard and mouse or gamepad; there's this new headtracking mechanic available. You really do have to think about all of that when you design a user interface, and suddenly you have to think about how you would interact with the user interface if it existed in the real world."

Suddenly, viewed though an Oculus Rift headset, 2D HUD elements may be intrusive? Surely it is better to glance down at your gun to check its ammo than look to an arbitrary sign floating in your field of view? It's something many console developers have already tried implementing in traditional 3D console games, and titles like *Dead Space* were among the first to use the technique with particular grace. And with VR, as players can really move their head to look down, those techniques can be used with even greater effect.

But not all UI can be placed on in game objects; targeting reticules and destination markers must exist in the game volume, while certain elements such as player instruction text and subtitles may best serve their purpose as 2D assets. But should they lock to the players' head movements? Or should they instead affix themselves to a point in the gameworld? Does screen edge even have meaning in a VR environment? What will feel natural and comfortable to glance at when the head and neck are serving as an input? The questions are endless, but sources of inspiration are plentiful, and one in particular is likely to have much appeal for games developers interested in the tech.

> ***"I think one of the most impressive things about VR is just the ability to have a sense of presence in a gameworld."***
>
> Nate Mitchell, Oculus VR

"Think of how people have imagined UI in science fiction, which is somewhere Hollywood has done a great job;," offers Iribe. "That is now where many people are starting to look for inspiration, and those kind of ideas are how a lot of people are going to realise UI in VR games."

A NEW GRAMMAR

The challenge for conceiving how UI should work in a VR space is a more academic matter. Developers are going to do more than just learn new methods, for they must liberate themselves from the previous rules of UI design. It's not an easy task, but an essential one, argues Mitchell.

"I think the biggest challenge at the onset will just be for developers to break down their preconceptions and get away from the conventions of user interface up until now," he says. "They need to begin again with what works for VR. I've already talked to a number of developers at game studios that are already doing that. A lot of UI and UX designers are now sitting down with a Rift for the first time, and they are integrating it with their work very quickly and jumping in, and realising the challenge and opportunity of user interfaces in virtual reality."

Of course, if those designers are successful in integrating a new kind of UI into a virtual reality, as they strive to ape the 'user interface of real life', some speculate UI as a distinct discipline may disappear, at least in part. After all, if in-game objects alone can communicate needed information to the player, then surely UI is just another task for those conceiving the likes of weapons and gameplay items.

"I don't think we'll see UI disappear, but it will become far more integrated into a gameworld," offers Mitchell on the matter. "What we're already seeing is that a lot of developers are pursuing that type of experience, because it is more immersive, and more effective in not seeing the player be taken out of a game experience to use interfaces. Rather than have those ammo-counts floating in space, and being reminded you're in a game, with VR UI a player can ▶

Brendan Iribe (top) and Nate Mitchell of Oculus VR see their flagship headset (above) as the next step to breakthroughs in user interface design

LEADING THE FIELD

A look at the best early examples of UI in VR

UI of the future as seen in the 2002 film Minority Report

WITH THE DEVELOPMENT of games for virtual reality systems still barely passed its fledgling phase, there are not yet any concrete conventions set for what make great user interfaces for the likes of Oculus Rift.

But some ambitious studios are already building standout UI for their Rift games, and the team at Oculus VR are already impressed by what they have seen so far.

"*EVE Valkyrie* by the CCP guys is a great example of what is possible with UI and Oculus Rift," says Oculus VR's vice president of product, Nate Mitchell.

"It has only one piece of 2D UI, head tracked with the user, and the rest – ammo, missile lock and so on – is integrated into cockpit. When you play, as you fly around in your ship you do get this real sense of presence in the game-world because of the UI. As you look behind you to see the enemy and then look down at your cockpit dashboard to check if your enemy has a lock on your ship; it's a great example of what good UI VR can offer; it feels natural."

Meanwhile, Oculus VR CEO Brendan Iribe points to Adhesive Games Rift build of *Hawken* as another fine example of how heads-up-displays can be integrated into a gameworld.

"The way *Hawken* pushed 2D UI onto cockpit made the game very natural, and that's something I think we'll see more of as more developers create UI for their VR games," he states.

Colin McRae: Dirt (above, right) was one of the first racers to take great care in the design of its cockpit view. Elsewhere, Dead Space's (below, right) holographic HUD gave an early glance of how UI may work in VR games

keep moving through the world, just glancing down in-game to see their remaining ammunition."

DEEPER THOUGHT

Player immersion is one of games design's ultimate goals. If a consumer strapped into a Rift forgets they are playing a game, the developer behind that game has perhaps triumphed. And it is that that VR offers UI designers: a chance to take player engagement to a new level. In fact, according to Iribe, VR provides what UI as a discipline has been longing for; a place where user interfaces can escape the arbitrary forms that have for decades constrained the potential for communicating with the player.

"VR is absolutely an opportunity for UI design, and really what user interfaces have been waiting for," claims Iribe. "VR takes UI to a whole new level, which is just super-exciting for games developers, and especially UI developers. They're now able, to me at least, to realise UI in more compelling and innovative ways. UI is no longer a 2D element; it's not going to just be about pieces of text and icons anymore.

"UI was never something particularly exciting for the user, and menu screens in particular. Now it can be a very exciting part of the game. In VR UI can be the CG graphics we've scene in *Minority Report* and *District 9*; that's now something we'll see in games."

Such optimism is hard not to warm to, but as team sizes, budgets and time available across the industry continue to feel the force of a changing sector, it's important to consider how realistic it might be for teams to embrace UI's new VR era.

> ***"UI was never something particularly exciting for the user. Now it can be a very exciting part of the game."***
>
> Brendan Iribe, Oculus VR

Fortunately, most VR games present 3D worlds technically similar to those that have long beguiled traditional console games, and as such, most existing UI middleware is already fit for purpose.

"There's a great middleware technology called Scaleform," says Brendan with a smile. "With Scaleform, and other technologies like Scaleform, you can map the 3D surfaces and project out into the 3D world, which will be very useful for realising UI in VR games.

"Those kind of abilities have only got more popular and people continue to use those kind of features, and now you'll see that go to a whole new level. The functionality of tools is already there in a number of UI systems – although not all UI systems, as many still focus on 2D overlays. Certainly with Scaleform developers are already able to do a lot of fun stuff, such as texture mapping onto 3D objects, which will be perfect for UI for VR."

Games development is never easy as such, but relative to the task of building interactive realms, with the tools already available and familiar, implementing innovative UI in VR looks set to be technically well within the realm of most studios' abilities.

With the development tools in place, and VR finally ready for consumers and developers, user interface design looks set for another new transformation. There are indeed challenges, but those are vastly outweighed by the new opportunities, and who knows? We may even see the traditional game menu disappear from games altogether. Exactly what direction UI design will take in VR is now down to the developers, and it is that that makes it such a fascinating field. ■

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100 tips from the Develop 100

ADVICE FROM THE UK'S HOTTEST STUDIOS

EVER WANTED TO start your own studio? Or perhaps you're an established outfit looking for advice on growing your games business. Maybe you just want to ensure your next release is a success.

The UK is home to more than 500 development studios, from one-man and small-team indie operations to large development houses, and some of the best are here to help.

Last month, *Develop* rounded up the best of the country's teams in our *Develop 100 UK Studio Hot List*, and many that made that list have come forward with advice on setting up, hiring, managing your studio and developing that game. So read on, for 100 tips from the *Develop 100*.

THE DEVELOP 100 UK STUDIO HOT LIST

DEVELOP'S RANKING OF the UK's hottest studios is out now. The latest *Develop 100* ranks the nation's top developers based on their commercial and critical success, reputation and potential. It also contains a detailed guide to over 500 game dev businesses in the UK. You can read our guide to the UK games development sector at **www.develop100.com**, or on iPad through the *Develop* iOS app.

6 TOP WAYS TO MARKET AND SELL YOUR LATEST GAME

"Posting occasional thoughts on Twitter does not a social media strategy make. Run this like any other part of your business."

Mike Burnham, Studio Head, Marmalade Game Studio

"Make friends with your audience by building in Twitter and FB Like achievements. The direct interaction is invaluable."

Lorraine Starr, Commercial Director, Yippee Entertainment

"If you think your game is worth more than a dollar, or ten dollars or thirty dollars, price it accordingly."

Cliff Harris, Founder, Positech

"Set up your own website and sell from it, and if you don't get the nod from Valve, make a different game."

Mark Morris, MD, Introversion

"Make something people want, talk to them like real humans, 'fess up when you've made a mistake, and you can't go too wrong."

Adrian Hon, CEO, Six to Start

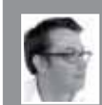
"The best way to get your name out there is to go out and meet people. Social media should be an essential part of your marketing."

Ian Reynolds, Co-Founder, Quartic Llama

11 TIPS ON HOW TO START A SUCCESSFUL NEW STUDIO

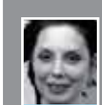
"Focus on quality: quality production values, quality ideas and quality staff."

Chris Viggers, Studio Development Director, Blitz Games Studios



"Stay as small as you can, use freelance coders, artists and sound guys when you need them."

Mark Morris, MD, Introversion



"When you start a new company there's no end of people telling you what you should and shouldn't do. If you listened to all of it you'd never do anything."

Anna Marsh, Design Director, Lady Shotgun

"Know in advance what kind of studio you are: work for hire or own-IP development."

Alice Taylor, CEO, MakieLab

"Like any business, you should only start a studio if you have a clear vision for the game or games you want to make."

Paul Gouge, CEO, Playdemic

"You need to have a roof over your head and food in your tummy, so get a full-time job, and make games on the side."

Dan Marshall, Chief Executive of Game Development, Size Five Games

"Be stubborn, because the likelihood of success is so small you'd never do it unless you totally believe in what you're doing."

Ian Yarwood-Lovett, Media Director, Soho Productions

"If you want to make games because you think it'll make you rich, don't make games."

Miles Jacobson, Studio Director, Sports Interactive

"If you are starting a new studio, keep the scope of your first game simple, so that you can focus on polish and bug-fixing."

Sophia George, Chair, Swallowtail

"Don't be afraid to start your own games company straight out of school if you know you've got some great ideas."

Daniel Da Rocha, Managing Director, Toxic Games

"Have a secure financial store, don't set out with nothing expecting your games to be able to support you."

Byron Atkinson-Jones, Director, Xiotex

15 HANDY PIECES OF CORE DEVELOPMENT ADVICE FOR GAMES STUDIOS LARGE AND SMALL

"Prove that your game is fun at prototype level. Content doesn't fix broken core mechanics."
Imre Jele, Creator-in-Chief, Bossa Studios

"Before we start making a game, I like to visualise it as a sequence of 'final' screenshots on the target platform. It's the quickest way to make it feel real."
Gary Penn, Creative Director, Denki

"Involve localisation as early on as possible in a project to avoid bigger issues later."
Sophie Butlin, Localisation Manager, Jagex

"If I ever find myself stuck on a problem, I ask for help from the team, and move onto something new while waiting for advice."
Anna Marsh, Design Director, Lady Shotgun

"Learning from mistakes is essential."
Jeff Coghlan, CEO, Matmi

"A huge mind-blowing concept that only achieves half its features is not going to be nearly as good as a smaller, focuse, idea that's fully realised."
Rahni Tucker, Gameplay Director, Ninja Theory

"Use source control, even if you're working alone. Source control gives you the ability to try things out."
Henry Falconer, Lead Gameplay Programmer, Ninja Theory

"See constraints as the foundations for your creative thinking."
Kate Booth, Operations Director, Preloaded

"Build something you believe in. If you won't enjoy playing your game, how can you expect anyone else to?"
Chris Southall, Studio Head, Hardlight

"Get the core gameplay loop in ASAP. Towards the end of production that same loop will be the defining structure of your demo."
Andy Tudor, Creative Director, Slightly Mad Studios

"Rather than striving for a perfect solution and spending too long on it, start simply and iterate."
Mark Stanley, Software Director, Lift London

"Be careful in assuming others know better than you, be brave and know that to make a difference you have to find your voice."
Ben Merrick, Producer, Reflections

"You sometimes need to be brave enough to scrap months of progress if it just isn't working."
Dan Marshall, Chief Executive of Game Development, Size Five Games

"Story done well has a very powerful effect on a game. Good writing is a hard skill that can be improved like any other."
Jim Griffiths, Creative Producer, Mediatonic

10 WAYS TO AVOID GROWING PAINS FOR YOUR START-UP

"Never miss an opportunity to talk and listen to your players. They will give you invaluable insights."
Imre Jele, Creator-in-Chief, Bossa Studios

"Keep your culture as you grow; it is one of the reasons people like working there."
Bynley Gibson, Executive Producer, Headstrong Games

"Try to maintain a healthy spread of skills and experience. Junior members of staff can be just as important as your seniors."
Time Coupe, Executive Producer of Transformers Universe, Jagex

"Most of your value is in your ability to create new content, so don't let anything compromise the integrity of your next game."
Paul Taylor, MD, Mode 7 Games

"Don't grow too fast. It will dilute your quality, slow your development process and compromise your culture."
Paul Gouge, CEO, Playdemic

"To keep moving forwards, you must be making decisions based on where you want to be, rather than where you are now."
Ella Romanos, CEO, Remode

"Focus on your core studio beliefs and values, and ensure you communicate these every day through your actions."
Chris Viggers, Studio Development Director, Blitz Games Studios

Build a team that can support forward movement while keeping all the right roles filled by people with the skills to do a great job."
Richard Smith, Technical Director, CCP Newcastle

"Lots of opportunities start to present themselves, and human nature tempts us to try and take every one. That lack of focus can be catastrophic."
Colin Anderson, MD, Denki

"Assume a minimum of a four-year commitment to grow a company."
Alice Taylor, CEO, MakieLab

12 ESSENTIAL TIPS ON HIRING (AND KEEPING) THE RIGHT TEAM FOR YOU AND YOUR GAMES

"Hire for attitude, train for skills. You need teamwork over and above hard skills when the times get tough."

Chris Viggers, Studio Development Director, Blitz Games Studios

"The single most important factor is whether the candidate will be a fit with the existing team."

Richard Smith, Technical Director, CCP Newcastle

"At Fireproof we were very careful to hire candidates who could keep up with the rest of the team in skill, enthusiasm and love for games."

Barry Meade, Business Director, Fireproof Games

"Don't rush hiring, it is worth being understaffed while you find the right people; the cost of a bad hire is far worse."

Bynley Gibson, Executive Producer, Headstrong Games

"Smaller studios and start-ups need multitalented staff. So look for hires that are eager to learn and expand their knowledge."

Mike Burnham, Studio Head, Marmalade Game Studio

"Don't be afraid of people smarter than yourself – just hire them."

Cameron Yule, Technical Director, Preloaded

"Meet as much creative talent as you can, and meet people even when you aren't hiring."

Chris Cox, Head of Art, Preloaded

"Employing the wrong people is the single biggest threat to your business."

Ella Romanos, CEO, Remode

"Always hire people smarter than yourself. Always follow your gut instinct on someone."

Ian Yarwood-Lovett, Media Director, Soho Productions

"Hiring is the single most important thing you will do as a studio, so take your time and do it right."

AJ Grand-Scrutton, CEO, Dlala

"You have to actively spot talent and hire whenever they're available, regardless of whether the time is right for you."

Colin Anderson, Managing Director, Denki

"Always look for 'T-shaped' people, deep knowledge in one area but with a broad range of other experience."

Simon Barratt, Director, Four Door Lemon

3 KEY WAYS TO ENSURE SELF-PUBLISHING SUCCESS

"You'll need someone to work tirelessly on being out there: talking, blogging, tweeting, drinking, partying, meeting, showing, telling, and shaking hands."

Alice Taylor, CEO, MakieLab

"Do not be afraid of self-publishing. It's actually easy to do on PC. There are companies that handle the payment side, and you get to keep more than 90 per cent of your hard earned money."

Cliff Harris, Founder, Positech

"Think as a publisher; sales, marketing, PR, community, QA, localisation, age ratings and customer services specialist. You need to do it all."

Debbie Bestwick, MD, Team 17

9 ESSENTIAL CONSIDERATIONS FOR CHOOSING THE RIGHT PARTNERS

"The right partners are good listeners, and they always look for win/win outcomes."

Colin Anderson, Managing Director, Denki

"We jumped at doing any work that was out of our comfort zone including casual games, platformers, TV tie-ins, FPSes; anything that we could learn from."

Barry Meade, Business Director, Fireproof Games

"Think about the longer-term partnership not just the immediate project."

Simon Barratt, Director, Four Door Lemon

"Network, network, network. You never know when a random conversation can result in a new project, a new backer or a new studio advocate."

Patrick O'Luanaigh, CEO, nDreams

"Do your DD on your partners and their proposed deals. Don't be romanced into doing a poor deal."

Paul Gouge, CEO, Playdemic

"The most exciting thing about independent studios is their individuality, so if you are dealing with publishers, make sure you are happy with each and every decision."

Sophia George, Chair, Swallowtail

"Don't pick the publisher based on a relationship with an employee who works there. People move on."

Debbie Bestwick, MD, Team17

"Remember that opportunities can show up in unexpected places, not just with the bigger studios and publishers."

Ian Reynolds, Co-Founder, Quartic Llama

"Find someone who matches your belief and vision. Working with a partner means compromising, but not on your vision or beliefs."

Chris Viggers, Studio Development Director, Blitz Games Studios

7 GOLDEN RULES FOR FINDING THE RIGHT TECH AND TOOLS FOR YOU

"Understand what you want the tools to do against what the end users experience. Gameplay and content is king."

Chris Viggers, Studio Development Director, Blitz Games Studios

"Your technology choices should seek to leverage there strengths while compensating for weaknesses."

Richard Smith, Technical Director, CCP

"If someone else has already made it, buy it. The content you create is what you will be remembered for."

Barry Meade, Business Director, Fireproof Games

"Consider if you will be able to continue using the solution for multiple projects further down the road."

Mike Burnham, Studio Head, Marmalade Game Studio

"Think carefully about building your own tools. This can be a major asset to any studio, but equally you shouldn't waste valuable time and resources."

Paul Gouge, CEO, Playdemic

"I live by the rule that you're only as good as the tech powering your title."

Ian Yarwood-Lovett, Media Director, Soho Productions

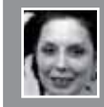
"Use Unity, build games not technology. Tech is fun but game sales help put food on your plate."

Byron Atkinson-Jones, Director, Xiotex

7 INSPIRATIONAL TIPS TO GET YOU MOTIVATED

"Take risks. If you aren't putting anyone else in the firing line it's worth taking the chances because they could pay off."

AJ Grand-Scrutton, CEO, Dlala



"Some days and weeks you'll find that you barely progress at all, and those times are hard. See those days as part of the process."

Anna Marsh, Design Director, Lady Shotgun

"Keep working on things you love and giving them the attention they deserve."

Paul Taylor, MD, Mode 7 Games

"Believe in your gut feelings. Enjoy the highs. Ride the lows. Do stuff you enjoy and have fun."

Oli Christie, CEO, Neon Play

"It's easier to get over the fear of speaking up than it is to forget the brilliant games that could have been."

Ben Merrick, Producer, Ubisoft Reflections

"It's really tempting to design purely for commercial success, but you'll never be able to scratch that creative itch that got you into this business."

Ian Reynolds, Co-Founder, Quartic Llama

"Be prepared to work very hard, especially in the early years, and don't expect success to be automatic."

Byron Atkinson-Jones, Director, Xiotex

10 STUDIO MANAGEMENT RULES OF THUMB TO LIVE BY

"Embrace mistakes. Make people proud to take ownership of their work."

AJ Grand-Scrutton, CEO, Dlala

"No matter the short-term pain, always be sure to kill off any source of negativity for your team."

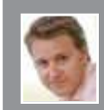
Simon Barratt, Director, Four Door Lemon

"Be open and approachable to your team; try to be empathetic to an individual's concerns, problems or feedback."

Time Coupe, Executive Producer of Transformers Universe, Jagex

"Everyone is different and motivates themselves differently; it's a truism, but it's also an incredibly easy one to forget."

Paul Taylor, MD, Mode 7 Games



"Create a strong culture and ethos. Employ brilliant and nice people. Look after your team. It brings loyalty."

Oli Christie, CEO, Neon Play

"Consensus can kill creativity – sometimes the idea everyone can agree on is the worst idea."

Rahni Tucker, Gameplay Director, Ninja Theory

"A poorly thought out process can cripple teams, but a well structured one can empower them to make better products."

Kate Booth, Operations Director, Preloaded

"Every two weeks, privately ask each person in your company how happy they are, and what they think would improve their time at work."

Jamie Walker, Studio Director, Rocksteady

"Make sure the whole team believes in it and enjoys what they are doing."

Chris Southall, Studio Head, Hardlight

"Build around the people you have, and be prepared to be constantly adaptable."

Ian Yarwood-Lovett, Media Director, Soho Productions

11 OF THE MOST IMPORTANT BUSINESS TIPS FOR A SUCCESSFUL STUDIO LOOKING TO GROW

"Get an accountant. You may be able to do the accounts, but wouldn't you rather be making games?"

Byron Atkinson-Jones, Director, Xiotex

"Everyone has different approaches to risk, and none are right or wrong. But understanding the potential implications of that risk is crucial."

Ella Romanos, CEO, Remode

"Embrace the competition. If there's competition, you're probably working in the right neck of the woods."

Chris Southall, Studio Head, Hardlight

"Unless you are a businessperson, then the admin side of things is unlikely to be where your strengths lie. We figured out that it was much cheaper and easier to hire someone to do it for us."

Dan Pinchbeck, Studio Head, The Chinese Room

"This is an ever-changing industry and it's crucial to be open to that change."

Jason Avent, MD, Boss Alien

"Observe the herd and do exactly the opposite."

James Marsden, Director, FuturLab

"The assumption by many devs is that indie games means platform games about your emotions done in 8-bit retro style. That's a design aesthetic, not a business model."

Cliff Harris, Founder, Positech

"I'm a big believer in crowdfunding – it's gotten Six to Start to where we are."

Adrian Hon, CEO, Six to Start

"We have done very well at making branded content, and developers should not be ashamed of working in this field."

Jeff Coghlan, CEO, Matmi

"Be prepared to bin duff projects."

Oli Christie, CEO, Neon Play

"Your account manager is fundamental. He's your new best friend. This is where it all starts."

Debbie Bestwick, MD, Team17

Life after Kickstarter

Kinesthetic's Kostas Zarifis (right), who learned much from his attempt at funding Kung Fu Superstar (above) through Kickstarter

Kostas Zarifis speaks to **Aaron Lee** about his ambitious crowdfunded game project and how it led to his own rise, fall and eventually, redemption

KOSTAS ZARIFIS WAS a typical coder with a dream. He wanted to make a martial arts game that would make players feel like Chow Yun-fat, only he had no team, no time and no money to make it happen. Then, Zarifis heard that Kickstarter was launching in the UK, so he decided to give up his full-time job and devote his time to making action game *Kung Fu Superstar* a reality with a little help from the community at large. What he didn't anticipate, however, was how quickly innovative projects can lose their support.

INVINCIBLE

"I suppose the thing I want to emphasise is the emotional toll that it takes on you, which is actually something that think you tend to underplay quite a lot when you start," Zarifis tells us of the Kickstarter campaign for *Kung Fu Superstar*. "Because when you start you have all these hopes and dreams. You feel invincible to a certain extent. You kind of have to because it's quite an undertaking. It's quite a crazy thing to be doing, to effectively put your baby in front of all these people and invite them to praise it or mock it."

Kung Fu Superstar was an ambitious 'martial arts simulator' that was to use motion control, namely through Kinect, to replicate the player's kicks and strikes with its lead protagonist, Danny Cheng. Martial arts has long been a love of Zarifis, who saw the title as a means of combing fitness with action gaming. This, he thought, would be perfect for players who enjoy action games, but aren't attracted to the glacial activities of Wii Fit and its clones.

Zarifis first began to think of making the game back in 2010, months before Kinect was released, while working as a programmer at Lionhead Studios. After working on a prototype out-of-hours with the help of a handful of co-workers, Zarifis tried to get the attention of the Microsoft brass. The demo turned heads – and even got former Microsoft Studios creative director Peter Molyneux's interest – but Zarifis realised that things were moving far slower than he wanted. He needed a change.

So he chose to leave Lionhead and set up as an indie, opening Kinesthetic Games in May 2012. By this point Kinect had been out in the market for several months.

"Things were moving to mobile, and we were pitching a game on the platform that wasn't getting a lot of traction," explains Zarifis, who tells *Develop* that Kickstarter was his only option at the time.

"Kickstarter is all about nostalgia. My feeling was it's nostalgia, but it's also

HARD LEARNED LESSONS FOR KICKSTARTER HOPEFULS

HAVING BEEN THROUGH the mill, Zarifis has some advice for those hoping to succeed in the crowdfunding race.

- Take the possible administrative hit if you can, so you can be where the majority of the users are (for example, Kickstarter US)
- You want people to go from landing on your page to pledging to your campaign as quickly as possible, so don't confuse them with your messaging. Keep your video short (ideally no more than three minutes). You'll feel an urge to answer every possible question in your pitch video. Ignore that urge
- At the same time, don't rely on users coming back because of updates. You'll have one chance to gain as much traction as possible and that is launch day. So while your pitch needs to be short and sweet, make sure it covers the three key reasons why your project is special and why people should back it (this sounds easier than it is)
- Keep your funding goal as low as possible
- Even if you do everything right, you still may fail. Be prepared for this potential outcome and realise that it is far from a disaster. What doesn't kill you makes you stronger.

innovation. I thought it's a place where people that are making projects that are risky.

"It feels bad to say it, but it feels like that's not so much the case. A lot of devs go on about how publishers are always risk averse and they don't give risky projects a chance, and us devs sometimes go, 'yeah, but the market really wants this; let's give the fans a chance to decide.'"

RISE TO HONOUR

That is just what Zarifis did next. With a team of four, as well as help from approximately 30 others remotely, he started preparations for launching a Kickstarter project in time for its UK opening on October 31st, 2012.

Zarifis prepared more than a dozen tiered packages to entice backers to the game with the promise of soundtracks, T-shirts, beta access, as well as more unusual treats such as the chance to be a dev for a day.

The next step was to get some hype going for *Kung Fu Superstar*, something which happened to already be in motion thanks to the efforts of Zarifis and his team making a four-minute announcement trailer depicting the game's hero, Cheng, taking down a string of aggressors in step to the actions of a real player. The trailer, which was originally released in May 2012, generated much early attention for the game. That excitement gave Zarifis confidence that it was more than a quirky idea he had dreamed up; it was a concept he felt consumers would be willing to pledge money for.

On October 31st, Kickstarter UK went live, opening *Kung Fu Superstar* and a host of other projects to UK-based backers. Kickstarter, however, didn't seem too bothered about highlighting that fact, much to Zarifis' disappointment.

"Around midnight, the whole thing went live. But there was nothing. It wasn't the big marketing push that we were expecting. We were hoping we'd ride that wave, but there was no wave to ride," says Zarifis.

A lacklustre launch day was just the start of *Kung Fu Superstar's* snags. Teething problems, like the payment system initially being in US dollars only, meant that lots of potential UK backers were lost. But above all, Zarifis admits that he didn't anticipate how tough it would be to sustain interest in the campaign.

"It's really hard to regain interest from people. You've got to make an impact within those first five days," says Zarifis, who added that when they released featurettes on the game's control system, it didn't give the project the boost it needed. "While it pays to try and prolong interest in your campaign, at the same time, you want to make sure that you capture as many people as possible on that opening day."

> ***"We were pitching to an audience that traditionally has been backing nostalgia-fuelled projects, and mostly on PC."***
>
> Kostas Zarifis, Kinesthetic

Interest in the game eventually dried up and *Kung Fu Superstar* ended its Kickstarter campaign just shy of half the money needed for its £200,000 goal. Zarifis was disheartened, almost to the point of depression, he says.

CLIQUE STARTER

Zarifis acknowledges that he made missteps with the project. But he also feels that the gaming world wasn't quite ready for it.

"A lot of the time you'll go on Kickstarter and if you look at the kind of projects that do get funding, you'll find that the new, completely wacky and innovative projects are the exception really," says Zarifis, who adds that he himself is part of the audience delighted to see the return of *Syndicate* and many other series.

Yet he emphasises that that's not where Kickstarter should end: "I'm excited about that stuff, but I do want to see new and innovative stuff, concepts that we've not seen before, rather than incarnations of the same thing. I can't say I'm aware of all the Kickstarters that are going right now, but it doesn't look like Kickstarter is the place to get that kind of thing to happen."

He continues: "In hindsight, Kickstarter would never work for us. We're doing a 'martial arts simulator' that was pitched as a game with a strong motion control element – even if it has classic controller support. We were pitching to an audience that traditionally has been backing nostalgia-fuelled projects and mostly on PC."

A SECOND CHANCE

Kung Fu Superstar may not have become a crowdfunding or media success, but Zarifis still believes in the idea.

"A lot of the time, people don't appreciate the kind of sacrifices that you have to make to get to the stage where you're even pitching the concept to them," he says.

What the campaign did do, however, was raise the profile of Zarifis and make his project more attractive to the right investor. In April, he signed a development deal with Turkish company ProjectSym for his current unannounced game project, and is pleased to be once again working towards his dev dreams.

"There comes a time when your ambition, your optimism and your dreams, you have to match that with day-to-day needs. You have to be very pragmatic," says Zarifis. "I was depressed and scared. I looked at myself in the mirror and said, 'there's no point in employing this attitude right now, because there's nothing to benefit from feeling this way'.

"When I decided that was the case, I got up off my feet again and secured this deal. It always gets worse before it gets better. Don't let that deter you from your goals, but keep a hold on the situation so that you react as efficiently as possible." ■

www.kinestheticgames.com

Fit for a King

When King opened its London studio, the Candy Crush Saga developer returned to its roots. **Will Freeman** asks studio head Catharina Lavers Mallet what the city means to the company

Catharina Lavers Mallet (above), head of King's London studio. Main image: Farm Heroes Saga, one of King's latest titles

AS KING OPENED its London games studio last year, the outfit behind the mighty *Candy Crush Saga* returned to the city where it was formed as Midasplayer.com.

For years the company had not made games in the UK capital, but after over year in the city, King is increasing its productivity at an astounding rate. *Develop* caught up with London studio head Catharina Lavers Mallet to find out what kind of games studio she runs, how it fits into the King family, and how it plans to grow.

What inspired King to open its new studio in London – and why is the city important to the company?
King has had a London presence since the company's founding in 2003. London was a natural choice for a King studio – there is a great ecosystem of top game development talent with freemium and mobile experience, and the international nature of the city means that a game can draw on many different perspectives and experiences to create a truly global game. Of course, being able to rely on the existing infrastructure of the London office has also been extremely helpful for us.

And what role does the London studio serve in terms of its place in the wider company and its interests?
The London studio is set up for cross-platform games development. We recently released *Farm Heroes Saga*, which is performing extremely well on the Facebook charts, and have a number of other cross-platform games in development.

> ***"I spend a lot of time obsessing over our culture, and making sure that we are really reinforcing the kind of environment that we want to have."***
>
> Catharina Lavers Mallet, King

How do you see the London studio evolving? And what are its ambitions?
We are a key contributor to the overall King strategy of being the world leader in casual cross-platform games. We work closely with the other studios around Europe to share knowledge, tech, and experiences, but are very autonomous in the day-to-day. We currently have about 50 people in the studio, including game developers, designers, artists, QA and product people. I expect we will grow to be about 70 people and then we'll pause there and evaluate if we want to grow further. It is really important that we maintain the small-studio feel that we have.

What kind of creative and company culture exists at King's London studio?
I spend a lot of time obsessing over our culture, and making sure that we are really celebrating and reinforcing the kind of environment that we want to have. I strongly believe that a large part of the reason we have been able to be so successful is because of our culture.

We move extremely quickly to adapt to the needs of our players and to respond to what they like and don't like. This means we need to stay nimble, which relies on building strong, small teams with a lot of ownership and autonomy. If teams have to wait around for approval to implement their ideas, they will likely miss the opportunity, so we hire smart people and let them get on with it.

We have an extremely flat management structure, and although we have designers, everyone in the team is expected to come up with ideas for features or ways that we can optimise the game. If something isn't going well, or could be better, I expect team members to flag it or fix it – we are building this studio together.

Although we as a rule do not crunch, we spend a lot of time together so it's important that people get along. King is probably the friendliest place I've ever worked, and we try hard to maintain an environment that is casual yet professional. I like it when people are a little bit weird and don't take themselves too seriously – after all, we are making fun for a living.

Clockwise-from-top-left: A collection of King's Saga games; Pet Rescue, Farm Heroes and, after more Pet Rescue, Candy Crush

We have a lot of social and team events, both formal and informal. At least a couple of times as week people will head down to the pub after work, and we schedule regular team, studio, and office events a few times a quarter. Past events have included go-karting, an ice sculpture carving class, an arcade trip, and renting out a cinema.

We look for humble, talented people who are passionate about joining King, who we feel we can learn something from (even if it's not strictly related to the job – one of our developers is teaching sword fighting), who are a strong cultural fit and of course have the strong skills we need.

King is famously productive, releasing games at a famously fast rate. How do you keep the quality high whilst creating games so frequently?

I think it goes back to my earlier point about ownership. Teams take a huge amount of pride in their work, as they know that hopefully millions of players will be seeing what they produced. We are very clear with our expectations – quality and fun are always the most important criteria for launching a game. It's important to set and meet timelines because there are business needs and dependencies, but quality is always number one.

What else makes King's London outfit distinct as a studio?

I think the international nature of the team is really special. I've lost track of how many countries we represent, but there are quite a few people in the team who have moved to London in order to join King. As a result, people socialise together a lot.

> ***"We look for humble, talented people who are passionate about joining King, who we feel we can learn something from."***
>
> Catharina Lavers Mallet, King

Moving on to what you've learned at King, what makes a studio successful and long lasting today?

It's important to know where you are trying to get to, what you are trying to accomplish, and who you want to be. Have a clear cultural identity, but be adaptive enough to respond quickly to the market. Set the right direction, and hire the best talent help you get there.

King London is recruiting, and you've already had a presence at job fairs, such as Silicon Milkroundabout. What kind of roles are you looking to fill?

We are hiring across the board – art, dev, and product. We are looking for C++, Java, and Flash developers as well as generalist artists with experience in 2D, 3D, animation, and UI.

We also need product managers (producer-types with live game experience), business managers (analytical strategy-types with operational experience), and data scientists (hardcore stats quants to help us maximise the player experience). We are also hiring in marketing, legal, finance, and pretty much every other team.

What makes King London's games rewarding to work on?

I'd say it's a combination of the people you work with and the impact you make.

Even with King's might, you must face challenges as a studio. Which are the most pressing, and how do you address them?

Players are really loving our games and so we are growing quickly as a company in order to keep pace. Maintaining the studio and company culture as we grow is at the top of my priority list. ■

www.king.com

Britain's games development heart

Home to historic console and PC outfits as well as clubs of nimble, young boutique studios, the Midlands may well be the UK's most versatile games development collective yet. **Aaron Lee** investigates

Royal Leamington Spa (main) is now the jewel of the Midlands, so say its resident developers, such as Andrew Oliver of Blitz Games (above)

AS THE BIRTHPLACE of Codemasters and Rare, its fair to say that the provinces of middle England, often known as the Heart of England, are also Britain's heart of games development.

Composed of development and publishing arms, Codies and its contemporaries are responsible for giving many of today's successful UK games makers their first crucial step on the games development ladder.

Indeed, Blitz Games Studios co-founder and CTO Andrew Oliver believes this is the case: "The Midlands has become a hot bed of developers. This mostly stems from the great success of UK indie publisher Codemasters in the mid-80s. It was based on a farm, between Southam and Leamington, with most people who worked with them or for them living in Leamington Spa, Warwickshire."

Along with Leicestershire, Nottinghamshire, Derbyshire, Staffordshire and each of their notable cities, the Midlands is an attractive region for a wide breadth of games development creativity and services. Yet the region has had it knocks in the last five years, as widely known, stalwart firms such as Eurocom have gone under. Faced with the shifting business practices and a need for fresh talent, *Develop* asked what's next for Midlands' developers.

CODIES' LEGACY

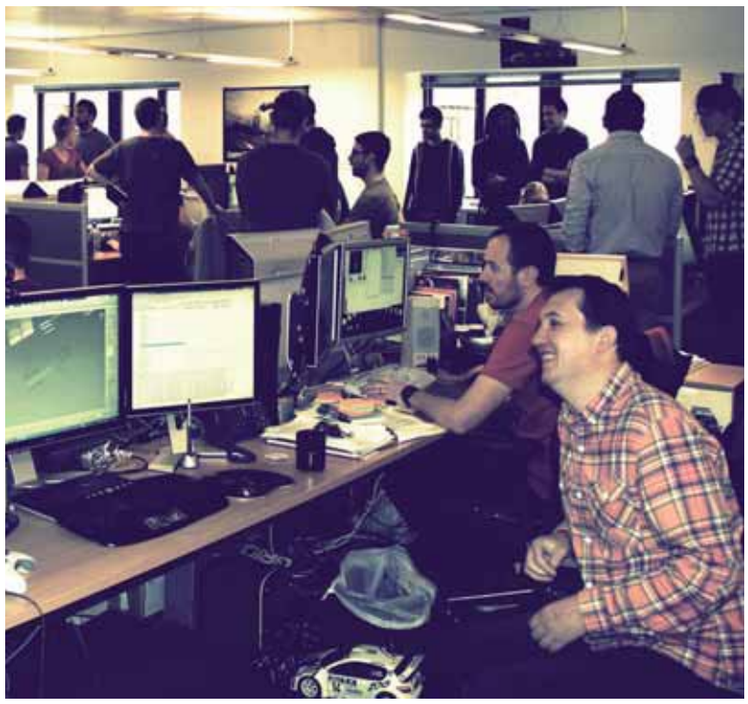
"I believe rather than defining the area, the early players like Elite Systems, Codemasters, US Gold and so on were the roots from which many of the current Midlands studios have grown," Playground Games director Trevor Williams tells *Develop*. "For instance, pretty much every studio in the Leamington area has some historic connection to Codemasters. But I think that is just history rather than there being any legacy which defines the games that are made in the region itself."

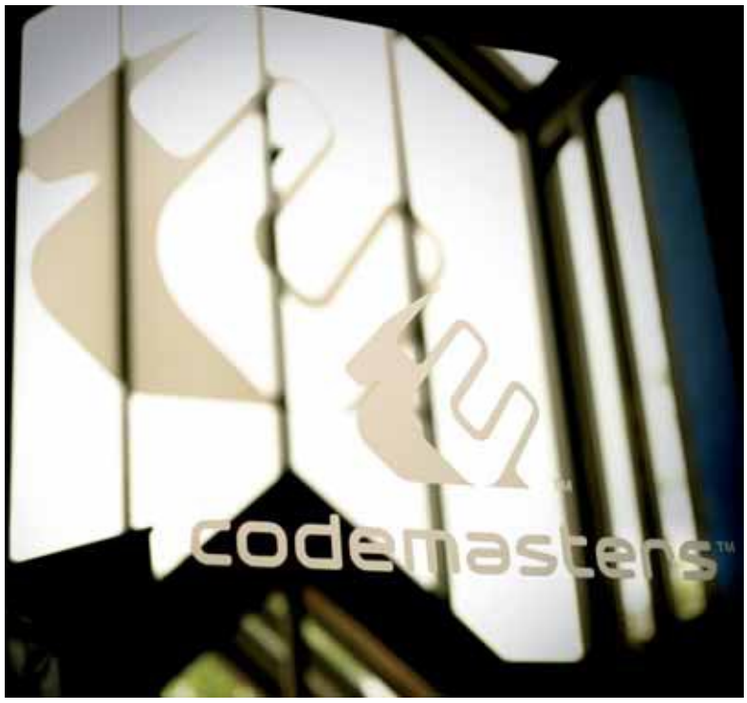
There are now over 1,000 games developers within a 15-mile radius of Leamington Spa. There you will find console houses including Blitz Games, FreeStyleGames and Playground Games; fresh-faced mobile outfits such as Caperfly and Pixel Toys; and creative digital agencies and services firms such as Fish in a Bottle and Audiomotion that have made a name for themselves and have the awards to prove it.

"This is a very affluent town and the game industry definitely still defines the area, especially in and around Leamington – or Silicon Spa as it's affectionately known," Oliver adds fondly.

The Blitz co-founder's comments hold water. Not to be outdone by London's burgeoning 'Silicon Roundabout' tech hub, which is yet to truly be embraced as an umbrella label by the capital's new games developers, Silicon Spa is home to no less than 15 game studios, as well as a number of outsourcing and services firms.

Such is the region's prowess that Playground's Williams believes it is now the





most capable in country: "The Midlands is obviously home to the last traditional UK publisher, Codemasters, but also some of the newer UK mobile publishers, like NaturalMotion. So rather than being typified by a particular model, the Midlands can probably claim to have a more diverse range of game company types than any other area."

DEFINED BY DIVERSITY

Speaking to other developers, it's apparent that diversity and adaptability are central traits for Midlands businesses, as a single studio model or development methodology doesn't really exist.

"It's hard to tell whether studios like Rebellion are the exception or the norm for the region. On the one hand we've been know for triple-A games built with our own technology, but we've also embraced new platforms and self-publishing in the same way that start-ups in the Midlands have to," says Rebellion CEO Jason Kingsley, whose studio is known for producing console titles, like *Alien vs Predator* (2010), but in the recent past has made a name for itself with smartphone hits such as *Judge Dredd vs Zombies*. He continues: "Of course you have larger, established studios in the area, but even the Oxford scene is incredibly diverse – only a couple of weeks ago some of our devs were rubbing shoulders with the likes of NaturalMotion and First Touch Games at a Special Effect charity football tournament, and they're both just round the corner."

> ***"The area has always been full of pioneers from the early days of bedroom coders with the likes of the Olivers, the Darlings and the Stampers."***
>
> Mick Morris, Audiomotion

Nick Craig, VP of operations at Codemasters Birmingham, agrees with Kingsley's thinking: "From Codemasters Birmingham's point of view, we are fortunate to have experienced many models – from triple-A with the likes of the *Formula One* series, to client work when it was Swordfish Studios, and today we have an element of microstudio culture with our digital team. It's more important than ever before not to become set in your ways and be able to respond to an industry and a consumer that's constantly maturing."

NaturalMotion CTO Simon Mack, too, sees the region as being full of diversity: "There is a mix of everything. The area has a broad and extensive range of companies – from micro, ▶

Jason Kingsley of Rebellion (top). and Codemasters Julian Widdows, with a studio montage (main)

Leamington Spa's picturesque streets hide one of the UK's longest-standing games development hubs

Top-to-bottom: Richard Tawn of Exient, Simon Mack of NaturalMotion and Trevor Williams of Playground Games

start-ups, mobile, console – that's an expansive range of different experience in a single geographic area."

IN SEARCH OF TALENT

Despite unified agreement that Midlands developers are adaptable and highly skilled, the last five years have seen closures across its provinces, and the subsequent loss of teams that have long been part of the UK industry. Monumental Games in Nottingham. Bigbig Studios in Leamington Spa. And Eurocom in Derby. These have been serious hits for the games development community in the Midlands, but Blitz Games Oliver says the region is coping: "There haven't been any big surprises recently. Thankfully, it's been a while since we saw the collapse of a few Midlands companies like Bigbig Studios. But like other places, this led to a few new start-ups in the area. Most companies are staying at around the same size, but have moved into mobile development and digital distribution methods, rather than console and boxed products.

"The industry itself is incredibly challenging at the moment, regardless of the size of company or games. I think Midlands-based companies are riding the waves smoother than I've seen in other areas."

Even so, Julian Widdows, VP at Codemasters Development Southam, warns that the real trouble for Midlands devs right now is the hunt for new talent: "Within the region we have more roles than candidates, and competition is stiff for the best developers. There's a great influx of graduates to the area, but as we know we've lost a lot of talent overseas during the past decade and this has meant we have to work harder to find and retain the really experienced developers who either live or want to live in the UK. More than anything we want people to understand what an amazing part of the world this is, and speak to people who live and work here about what the region has to offer."

> ***"The industry itself is incredibly challenging at the moment. But I think Midlands-based companies are riding the waves."***
>
> Andrew Oliver, Blitz Games

Fortunately, the Midlands has some of the top universities when it comes to educating the finer poitns of games making.

Institutions such as Staffordshire University (*Develop #139*) and the University of Derby train some of today's most skilled young programmers and artists, many of whom compete in competitions like Dare to be Digital and Make Something Unreal.

"Collaboration between the games industry and education has always been important, and it's always both sides that benefit," says Oliver. "We have our two local universities, Warwick and Coventry, both with games courses that work closely with local games companies, including Blitz, for advice on course content. It's great when their graduates go straight on to work in local development studios."

Widdows adds: "We have some superb technical courses at a whole range of Midlands Universities including and not limited to Staffordshire, Warwick, Aston and Birmingham University. Our Racing Studio, at our Warwickshire HQ, has had amazing success hiring, training and developing graduate talent, and it's something we're really proud of – something we believe speaks volumes about the quality of the experienced staff we have here."

Getting more specific, Playground's Williams sees two issues which stand out to him as being particularly important for the Midland's mix of console and mobile studios: "Mobile developers are in many cases are now able to retain and exploit their own IP.

"That is a good thing. However, they now need to be able to learn the skills to take that IP to market and make money out of it. I think there are some hard learnings ahead for some of those companies.

"At Playground, we obviously focus on large-scale console titles. There has been much speculation about team sizes and resource

CASE STUDY: PLAYGROUND GAMES

PLAYGROUND GAMES HAS been around for just over three years, and in that time it has grown to well over 100 staff, released its debut title on Xbox 360 and won a stack of awards for its efforts.

It would be easy for some in such a position to get slapdash after such sterling achievements, but CEO Trevor Williams is not about to be complacent.

"I think we are more focused on excellence rather than output. Quality over quantity. We are looking to improve our games each time. *Horizon* was great, but we want our next game to be even better and are very much working towards that," he tells *Develop*.

At this year's Develop Awards, the studio took home the prize for best New Studio, and Williams explain that it meant a great deal to him and his staff: "It was recognition, and perhaps even validation, of the last three years hard work. We've heard it suggested that we've had it easy having Microsoft as partners. It's true that they have been fantastic partners to work with, but it has still been tremendously hard work. We had to build a studio, a team and a game all at the same time.

"When we first signed our deal with Microsoft's Turn 10 there was just 16 of us rattling around in a small scruffy studio. At our peak we had 108 on-site staff and also managed a number of third-party vendors who were also supplying resource. We had to build that infrastructure in ten months. It was a crazy time."

Now, the Leamington Spa-based developer is gearing up for the next generation. Playground has started work on an Xbox One project and is continuing its relationship with Microsoft. That's shaping up to be something special, "a showcase title" Williams says. It is also forming a small mobile team with ambitions to move into mobile development in future. And all of this means that the studio is in need of new recruits.

Williams continues: "I think we are also quite distinctive in the way we recruit. We do not have HR or recruitment managers involved. Obviously we have administrative HR functions to support the hiring managers, but all of our recruitment and interviewing is carried out by the department heads. That is very onerous on them – they have day jobs after all – but it really streamlines the recruitment process.

"They know better than anyone what they are looking for in the candidates, but it also means anyone who interviews with us gets to interact with their discipline head at interview. Moving up to Xbox One has also created some very specific needs. We need to grow by a further 25 per cent – so we are looking for about 24 people."

Finally, Williams says: "Playground is a creatively focused company. Many UK devs are actually technology focused – whether they realise it or not. Everyone on our team is enabled – in fact encouraged – to have design input. Pretty much everyone at Playground plays games – even the IT guys. You put those two things together and you have a very powerful creative force." ■

Those interested in applying should keep an eye on Playground Games' website: www.playground-games.com

costs for next-gen games. I think that debate goes beyond manpower. The IT infrastructure alone required to build those games is challenging for an indie company. It would be a shame to see large-scale next-gen devs restricted to publisher-owned studios, so we need to find a way of rationalising those costs."

TENACITY OF SPIRIT

Williams makes solid points. Both Microsoft and Sony have brought their next generation platforms more within reach of indies and microstudios. But, as for the fate of large, independent developers, only the next couple of years will reveal whether the console ecosystem can really support such hefty team sizes, should the console audience continue to decline at its current rate.

Nonetheless, ask Williams whether the development scene in the Midlands is experiencing a purple patch and the answer is a resounding 'yes'.

Richard Tawn, art director at outscouring development studio Exient, sums up what many in the area feel: "The Midlands dev scene is most certainly thriving. In recent years, we have witnessed some big publishers move in, bringing large projects with them and this has naturally attracted talent from established studios who, in turn, needed to re-recruit or promote existing staff to fill those roles left open. The Midlands is home to many small independent studios as well as larger independents and there is a real sense of family in the area, with many developers crossing between studios on a contractual or semi-permanent basis."

> ***"It would be a shame to see next-gen devs restricted to publisher-owned studios, so we need to find a way of rationalising costs."***
>
> Trevor Williams, Playground Games

Mick Morris, managing director of Audiomotion, has the final word on the region: "The area has always been full of pioneers from the early days of bedroom coders with the likes of the Olivers, the Darlings and the Stampers. In 1997, I recall Geoff Brown making predictions around DLC, which were way ahead of their time.

"They'll fight hard if there's the threat of closure and they regroup and start again. I've witnessed it many times. We see it all over – that audacious willingness to start new studios. But I find the Midlands devs to be an incomparable lot; determined and armed with a certain tenacity of spirit." ■

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THE LATEST TOOLS NEWS, TECH UPDATES & TUTORIALS

The art of games audio p55

Inside photorealism

How long until games are indistinguishable from reality? The experts make their predictions, p40

NaturalMotion talks Euphoria p48

Under the bonnet of Exient's XGS p50

Starry eyed

Aaron Lee examines the truth about photorealism in the next generation, as the field's experts ponder when games studios will finally catch up with their Hollywood contemporaries

A Crytek-crafted glance at next generation games characters, in the form of imposing Roman warrior Marius Titus of Ryse (right)

THAT'S IT. TAKE a good, long look. The face of the next-gen ready centurion adoring these pages is made out of 10,000 polygons, while the full model notches up an impressive 150,000. On 360 and PS3, entire characters rarely push beyond 30,000, which gives you some sense of the graphical fidelity players will enjoy in the coming generation.

Nowhere has the pursuit of realism been more ferocious, more costly or more fragile than with games' graphics. It started in the 90s with the switch to 3D, and since then cutting-edge visuals have become a top priority for games studios. In the last era especially, visuals in games have come close to matching that of animated films.

Now, as the next generation approaches, *Develop* is here to address the tough questions about graphics and rendering in games. We wanted to know how close games are to true photorealistic characters and environments. And why the uncanny valley still poses a threat to games. And whether the fixation with visual realism is here to stay at a time when players expect more interactivity than ever.

IMMERSIVE WORLDS

"What you want as a developer is to give players that 'wow' moment when they first enter a new world. That is achieved through better graphics, more dynamism and a compelling reason to be there," Chris Doran, founder

Develop reveals a first public look at Epic's latest example of what is possible with UE4

of lighting outfit Geomerics, tells us. "If we get that right, players will flock to the next generation of games."

As Doran says, graphics are often the first thing that draws in the player. In spite of huge advancements, games are still viewed as the poor relation to Hollywood feature films. Those closest to the field are confident that photorealism remains one of the chief elements that will dispel the emotional barrier between games and audiences.

Dave Cullinane, account director at CGI production house Realtime UK, believes games have a lot more to give beyond shooting and explosions: "The advent of true photorealism, which is now within touching distance, will bring a much greater depth and subtlety to games that can only benefit the medium. It will serve to grow gaming's appeal and underscore the importance of the medium. Photorealism will help true character performance to flourish, helping elevate the emotion and engagement that many games already offer."

> ***"Photorealism will help true character performance to flourish, helping elevate the emotion that games already offer."***
>
> Dave Cullinane, Realtime UK

SO CLOSE

So just how close to 'true' photorealism are we really? The father of Unreal Engine, one of gaming most capable graphics tools available, Tim Sweeney, said during this year's Develop Conference that it could be as little as ten years or less for us to see photorealistic graphics that are "indistinguishable" from reality.

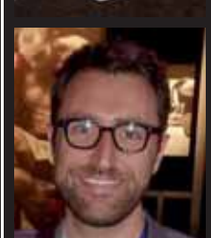
Jorge Jimenez has spent years researching real-time graphics and photorealistic rendering. And he agrees with Sweeney's prediction.

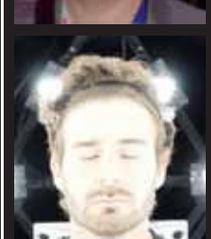
"I believe that in the next few years we will see the barrier between games and film vanish. For example, by using baked lighting more extensively – in the cases where memory is less of a problem, we can take more power from offline renderings into our real-time realm."

Jimenez, who is currently a technical director at Activision Blizzard and one of its core R&D graphics experts, feels that the problem of realising photorealism is actually about the application of skills, rather than simply having more horsepower.

"It is not to say that you do not need more power, which you always do. But rather, that the main obstacle to photorealism is in how and where to direct the resources you have available. And we have much to learn from the artists that are already creating photoreal offline renders; as shown in **cgsociety.org** galleries)," says Jimenez.

For Doran, Sweeney's forecast is achievable, but he argues that 'reality' is not what players are after: "If you replace the word 'reality' with the word 'film', then I totally agree. It is a small point, but gamers don't want games to look like reality; they want them to look like a live-action film. What cinematographers do is take a live-action set, and make it look hyper-realistic, for want of a better word. They make it look like a film. This is achieved through a combination of lighting effects and post-processing. These





Visual experts (top-to-bottom) Chris Doran of Geomerics, Realtime UK's Dave Cullinane and Activision Blizzard's Jorge Jimenez

Actors take part in Faceware's method for capturing convincing facial animation

Silicon Studio's Masaki Kawase (top) and Pete Busch of Faceware (bottom)

techniques are now in reach for next generation games developers. So I do expect some titles on PS4 and Xbox One to be indistinguishable from film."

Some developers, however, are less sure that this will be the case.

Crytek's US business development manager Sean Tracy, for instance, whose studio is behind the glorious-looking Roman warrior overleaf, as well as the technically bold *Crysis* series, admits that it is tough to pin down a timeframe for a goal that developers have long been chasing.

"I find it very difficult to predict more than a few years down the road to be frank," Tracy tells us. "Surely, rendering and graphics will continue to evolve and improve, and I do think that at some point there will be a convergence where real-time rendering meets or exceeds reality. Whether that's 'ten year from now', I simply don't know. What I do know is that we don't want to wait that long."

Masaki Kawase, lead software engineer and shader architect at Silicon Studio, the Japanese firm whose post-processing middleware Yebis 2 is used in the likes of *Final Fantasy XV* and *Valhalla Knights 3*, has his doubts too.

"For pure rendering it might be true. The human eye might not distinguish the difference between still images like pictures compared side by side. However, as soon as humans interact with photorealistic graphics, they would look artificial rather quickly," says Kawase. "The Xbox One and PS4 are powerful systems capable of delivering stunning visuals, but I don't expect that we will see graphics that are indistinguishable from reality until future console generations."

> ***"The Xbox One and PS4 are powerful, but I don't expect we will see graphics that are indistinguishable from reality."***
>
> Masaki Kawase, Silicon Studio

LET'S GET PHYSICAL

Kawase's comments will be an uncomfortable truth for some. However, just as the shader architect says, convincing gamers that they are in a believable world is not just about fooling them with stills that hold up to close scrutiny. Characters and inhabitants must act and move in ways that feel natural. One of the core advancements that is setting the foundations for big leaps in graphics and animation in the coming generation is physically-based rendering.

Cited by many in this article as one of the key trends at this year's SIGGRAPH, this technique allows programmers to model materials by using physical, measurable properties. Jimenez says that this new approach to algorithms will put the focus on measurements, which he feels is where the future of graphical advancements will start. He explains that when authoring an asset, there are too many dimensions to search for: diffuse and specular albedo, specular gloss,

Another Develop exclusive reveal, this remarkably convincing – and entirely CG – image shows Realtime UK's success with the War Thunder trailer

subsurface scattering properties, and so on. Narrowing this search space by measurement will enable easier creation of photoreal assets.

This, in turn, should mean that programmers and artists are free to reach for greater levels of spectacle, such as more destructible environments. And greater emotiveness too should come with this, as the limitations on character interactions loosen.

Tracy tells *Develop* that a number of physically-based algorithms are behind graphical improvements to lighting and materials in Crytek's game engine, which is powering Xbox One launch title *Ryse*. Using its physically-oriented lighting system, Crytek is attempting to ensure that every object in the game behaves as it should in the real world. And Crytek is not alone in viewing lighting as a core piece of the photorealism puzzle.

"In my opinion, the biggest challenge for the next generation of games is to improve the lighting to be consistent, by means of better global illumination. To make everything in the game feel integrated and sit well with their environments," remarks Jimenez. "Also, as more advanced antialiasing techniques are adopted, like CryEngine's SMAA T2x, or the new Unreal Engine temporal antialiasing approach, we will see game renders to more closely match CG as it is seen in films.

"It was stunning to see the effect of good antialiasing in the real-time SIGGRAPH Unreal Engine *Infiltrator* presentation – turning it off completely ruined the CG film look and feel."

> ***"In my opinion, the biggest challenge for the next generation of games is to improve the lighting to be consistent."***
>
> Jorge Jimenez, Activision Blizzard

(Read more on Unreal Engine's graphical chops in 'Distinctive décor', over the page) ▶

SCALING ISSUES

ADVANCEMENTS IN MOBILE graphics have come rapidly as the uptake of smartphones continues around the globe. The likes of UE3, Unity and Havok have made it possible to realise striking 3D experiences such as *Infinity Blade* and *Forever Drive* on mobile platforms.

"Both tablet and mobile graphical progression is faster than the progression of PC GPUs. A few of the biggest challenges are power consumption and the diversity of all the devices, as well as making sure things work on all of these devices," explains Masaki Kawase of Silicon Studio. "Gamers want to play everywhere and so it's crucial to keep graphics on the same level on multiple devices. This could even include games that are playable on totally different classes of hardware such as PS4 and a smartphone, with possible different interactions in the same world with the same story."

Sony and Microsoft have taken steps to incorporate mobile compatibility into their next-gen systems. What we may yet see is full 3D game experiences that are transferable between mobiles and next-gen consoles. The challenge for graphics engineers will be scaling between the different platforms; an issue that is sure to continue to be discussed with more vigor as platform convergence carries on.

DISTINCTIVE DÉCOR

EPIC GAMES ENVIRONMENT artist Paul Mader and senior environment artist Nick Donaldson worked together to create a lifelike high-rise apartment scene for Epic's engineers and licensees.

"We wanted to show UE4 developers what they can do with the new tools and technology using a realistic rendering demo as a quick proof of concept," said Mader. "Real-time graphics have always had to fight with heavy limitations, and one of the easiest ways to downplay shading and lighting restraints is to make scenes that are very stylised, or to add dirt and grime to objects, for example."

Mader points out that producing a setting such as an apartment room works well, being familiar territory with which most anyone can easily point out imperfections. "We wanted to test the tech with a clean, realistic room. Unreal Engine 4 has a physically-based material system that works with our improved Lightmass global illumination renderer. Our goal was to come as close as possible to an architectural visualisation rendering that one might expect to see created with offline rendering software such as Mental Ray or V-Ray."

Silicon Studio's latest output from its research on the bokeh effect – the physical imitation of lens behaviour

Doran agrees that lighting will play an increasingly important role, though he also points out that developers must not "over-do it", as has been the case in the past with effects such as bloom or normal mapping. Instead, he says that: "it is much more about artistic judgement, and much less about coders trying out the latest idea they heard about at SIGGRAPH. The more control the art director has on the final image, the better the experience will be".

> ***"It is crucial to make realistic visuals less expensively and in a shorter amount of time using better tools and better algorithms."***
>
> Masaki Kawase, Silicon Studio

ESCAPING THE UNCANNY VALLEY

New techniques such as physically-based algorithms mean that graphics may soon have the power to command the attention of even the most stubborn of non-gamers.

However, this still may not be enough for games to escape the uncanny valley. The term is used to describe viewers feeling a sense of unease or detachment to the appearance and movement of human-like characters, and cyberpsychologist Berni Good warns that games risk disengaging players if they fall into this trap.

Faceware is behind highly detailed facial capture animation technology used to generate such digital feats as Brad Pitt's face in *The Curious Case of Benjamin Button*. Its VP of business development Peter Busch explains the response one of its CG shorts received: "We learned on the *Emily Project* in 2008 that there will always be sceptics, no matter how 'real' you get with your graphics. Our technology was used in combination with Paul Debevec's Lightstage to create one of the most successful photoreal humans ever created.

"We cheated a bit because we only replaced the face of Emily – her clothes and hair were real. Even then, we received many comments that her hair looked 'off' and the cloth didn't move realistically. It was reality and people still questioned it."

The reaction to Faceware's video short would be welcomed by those claiming that the pursuit of convincing, photorealistic visuals is a vain conceit. But, speaking pragmatically, the argument that games visuals are as good as they need to be is one that segments of the gaming audience and some developers themselves seem to have subscribed to.

"Good games need good gameplay, and photorealistic graphics won't make a bad game into a good game. Indies are getting more attention from gamers, not because of graphics, but because of interesting gameplay," acknowledges Silicon's Kawase. ▶

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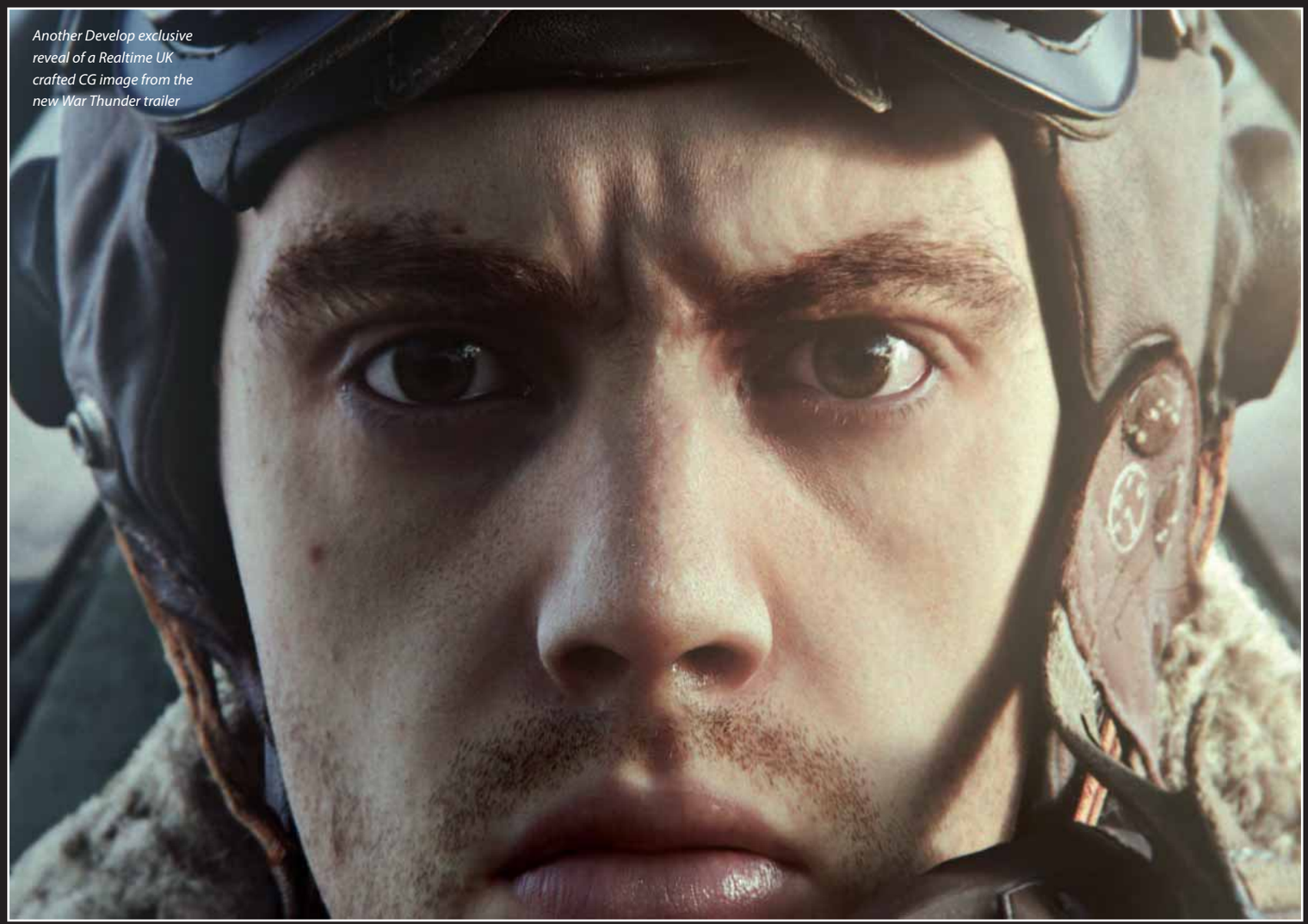

Another Develop exclusive reveal of a Realtime UK crafted CG image from the new War Thunder trailer

Crytek's Sean Tracy as seen in reality, rather than CG

Though he accepts this outcome, he remains committed to the idea that more photorealistic and immersive effects will lead to more real emotions, which will be "an opportunity to change the game experience". Kawase continues: "More powerful graphics means you can do more, but it means costs are going up too.

"So it is crucial to make realistic visuals less expensively and in a shorter amount of time using better tools and better algorithms, expending possibilities to work with more assets and more people on a team.

"We have more power but we need to use it differently than we used to. Compute shaders are still underused and we need to rethink all algorithms. The thing we need to focus on is how we can efficiently use compute shaders to make more realistic graphics."

Still, Doran argues that pushing for better visuals should not negatively impact games in the next generation, provided that developers leverage technology and resources sensibly: "If you pick your battles carefully, and bring in technology from outside to help, there is no reason to compromise. I don't think it would be smart for a developer to sit there today and think, 'I'm focussing all my efforts on AI, so I won't bother with graphics'.

"What they should think is: 'AI is our defining feature for this title, so let's go licence in the best graphics technology out there'. That is how it's done in the film industry. With all the computing power available in next-generation consoles, and the added availability of cloud resources, there shouldn't be a need to make compromises."

NOT GIVING IN

During the reveals of PS4 and Xbox One, there was a noticeably lukewarm reception to the graphical leap for early next-gen titles. This was fuelled in part by the alluring visuals the likes of Naughty Dog, BioWare and Irrational have managed to squeeze out of the aging, eight-year-old current-gen consoles, just as their successors turned up to hijack the party. Elsewhere, the appeal of quick-fire mobile games has pulled in millions. 3D graphics are only just beginning to be explored in more detail *(see 'Scaling issues', previous pages)*, but the staggering numbers for *Angry Birds* and *Candy Crush Saga* suggest that simple, 2D experiences will continue to thrive for many years yet.

> ***"With all the computing power available in next-gen consoles, there shouldn't be a need to make compromises."***
>
> Chris Doran, Geomerics

Does this mean the fixation with high-end graphics is over? Hardly. But it does suggest that despite much progress, early next-gen titles may fall short of players' expectations.

This is not the first time such as thing has taken place, as Busch says: "It will still take many years for the new hardware to be optimised to its fullest potential, much like when the PS3 and Xbox 360 came out. The expectations are higher than ever, but the trend will be an incremental increase in quality with each new title that each dev releases. My gut is that by the third release on new hardware, the games will really push the envelope when it comes to graphics."

Regardless of whether graphics truly are on track to be indistinguishable from reality this decade, it is tough to deny that next generation video games are closing fast on the quality bar set by CG films.

Technology will be central, but the consensus among the practitioners *Develop* spoke to is that artistry and better methodologies will drive the graphical breakthroughs of tomorrow.

A final thought from Tracy on the matter: "We have a saying at Crytek that hard takes a day and impossible takes a week, usually said along with the tag phrase, 'disrespect the impossible'. This is embedded in our company's philosophy and thus it would be safe to say that we will never be satisfied with the status quo and will never stop pushing the boundaries of what's possible in real-time rendering." ■

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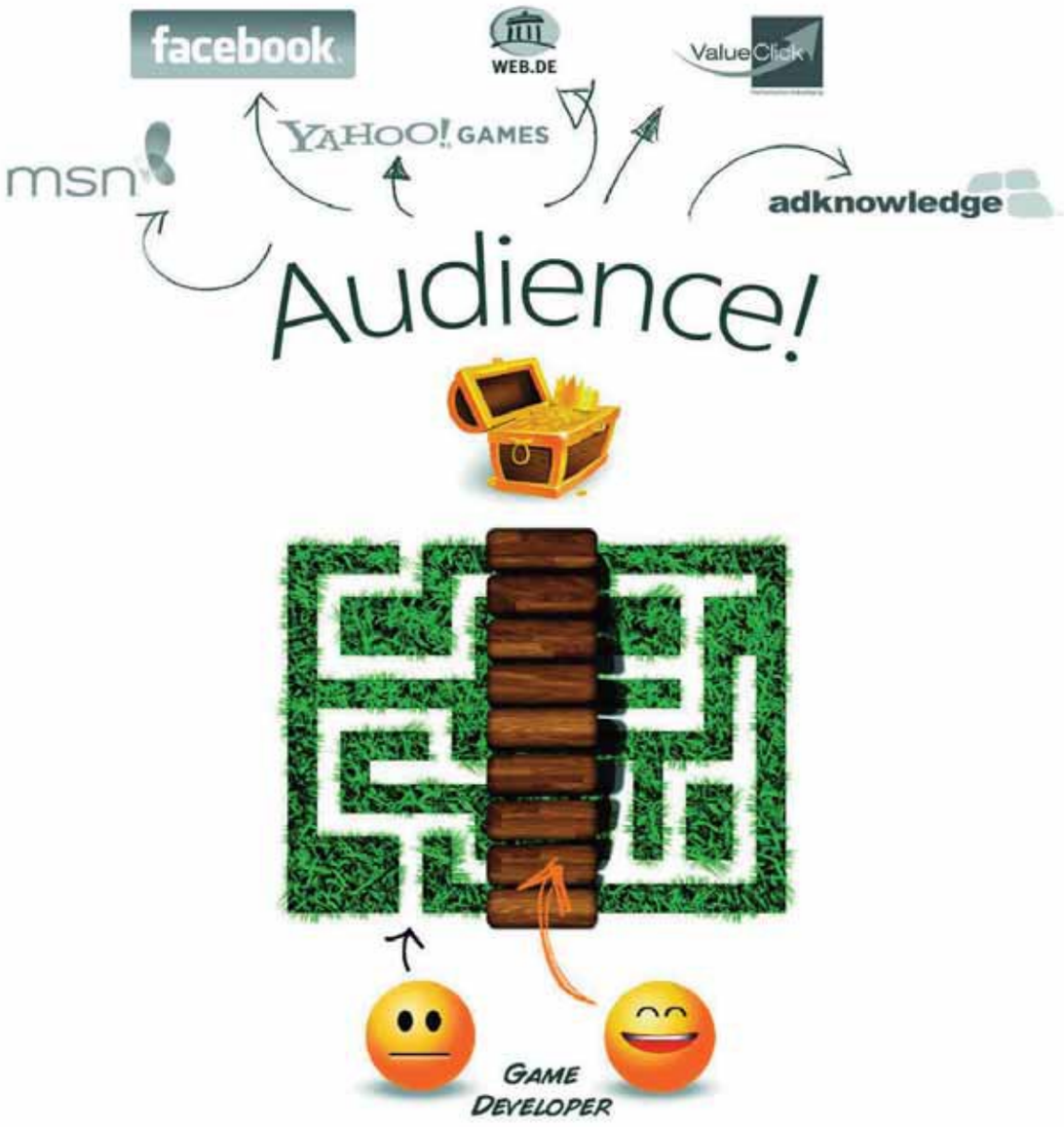

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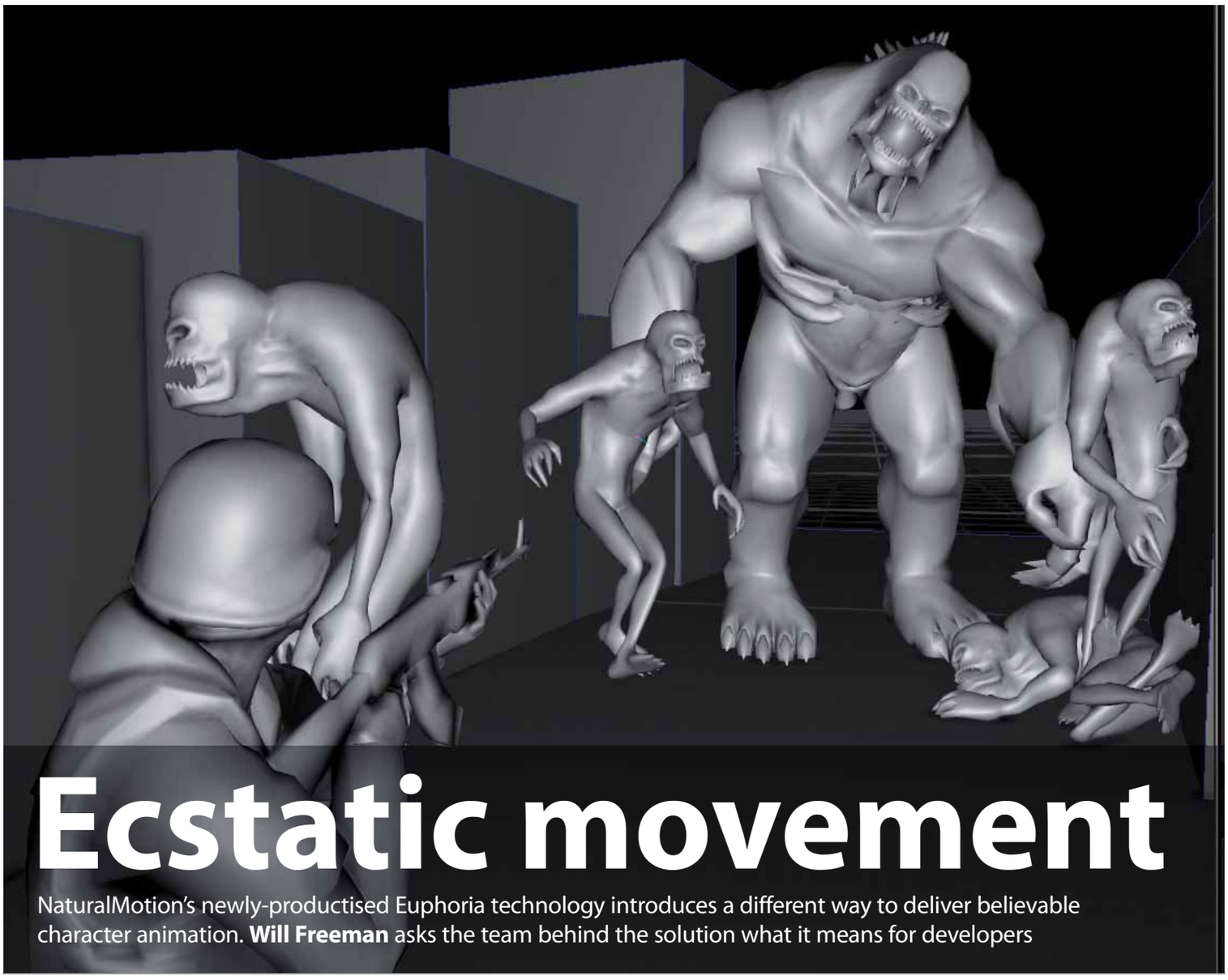


Ecstatic movement

NaturalMotion's newly-productised Euphoria technology introduces a different way to deliver believable character animation. **Will Freeman** asks the team behind the solution what it means for developers

Game characters powered by Euphoria move uniquely in a game environment (main image). Above: NaturalMotion team members Paul Topping (top) and Peter Cavanagh

AFTER YEARS IN development, NaturalMotion's 'dynamically synthesised motion' character animation engine Euphoria has be made available as a final productised middleware for games developers.

Delivered as an optional addition to the popular Morpheme tech, it lets studios use CPU to generate character movement on the fly, by simulating the motor nervous system, body and muscles of individuals in a game, meaning they can better respond to the world around them with natural movements and reactions.

Keen to learn more about the middleware, which is currently focused on next-gen, *Develop* caught up with NaturalMotion's senior developer support engineer Peter Cavanagh and VP of sales for EMEA Paul Topping as Gamescom sprung to life.

Why would a developer need to embrace the 'intelligent animation behaviours' approach Euphoria offers?

Paul Topping: There's a whole bunch of reasons to use Euphoria. Obviously, there's going to be a lot of complexity with the next generation, and even with a lot of storage space and a lot of processing power, a team can only have so many artists. Euphoria takes over a lot of the less exciting animation work, with really nice, high quality and fully synthesised character animations. In that way, with next-gen, it will really smooth the production process.

And it will provide really good quality, unique animations every time a game is played, so it gives the player constant variety.

> ***"Euphoria provides something more akin to a director's tool than what traditional keyframing allows you to do."***
>
> Paul Topping, NaturalMotion

Can you elaborate on that? How will Euphoria actually impact the experiences consumers have playing a game?

Peter Cavanagh: It means players will see more unique moments. They won't see repeated animations. Euphoria provides so many idle variations and different ways for a character to fall down or get up. Elsewhere, if a player plays a game for hours, or over and over, they will see the same thing with characters, which can spoil the game. With Euphoria, every time is unique; that could be special to the player in certain moments; making their game unique to them. There could even be more emotion, and there will be much more immersion.

How have you prevented prefabricated behaviours taking creative control away from studios, or giving Euphoria-powered games a uniform look or feel? If Euphoria is controlling the game here, couldn't that take away control from the developer?

Topping: The behaviours do tell characters what to do, but through the parameters available these reactive behaviours are just a framework a developer puts direction into.

Each one of them has numerous ways they can be customised and tuned, and a lot of them have the ability to be modified by extra supplementary animations. They can all be tuned to be what a developer wants them to be, to make a character, for example, strong, weak, timid or forceful.

Cavanagh: And you can cheat the system with various forces and stronger constraints, so if you really want to do something, you still have the control to do that.

WHAT IS EUPHORIA?

EUPHORIA PRESENTS DEVELOPERS with a series of 'behaviours' that can be applied to an in-game character; everything from reacting to impacts and adjusting balance, to reaching to grab an edge during a fall or bringing up the arms to shield against an incoming object.

Those behaviours can be applied to a character, which will use them automatically in-game, on the fly, in response to events, object and scenery in their immediate area.

Each of those behaviours is highly tuneable, and in combination with others – which can be ordered by priority for any given situation – can offer remarkably detailed and varied character movements.

The technology is made available as part of a special version of NaturalMotion's Morpheme animation suite, and is optimised to run on PlayStation 4, Xbox One and PC, with other versions for less powerful platforms in development.

Topping: That's a really important point, because you need to give control to the developer, and give them the power of creative direction. That's what Euphoria does; it provides something more akin to a director's tool than what traditional keyframing allows you to do.

What kind of studio is this technology for? It's clearly next-gen focused for now.
Topping: Eventually, I think it will be accessible to smaller teams. It is increasingly less complicated to use. It still likes to have access to a reasonable amount of processing power, to be honest, but games like *Clumsy Ninja* – which Apple demoed last year – show it can run on an iPad. So, yes, Euphoria is a technology for top-end games, but it should increasingly be suitable for smaller teams.

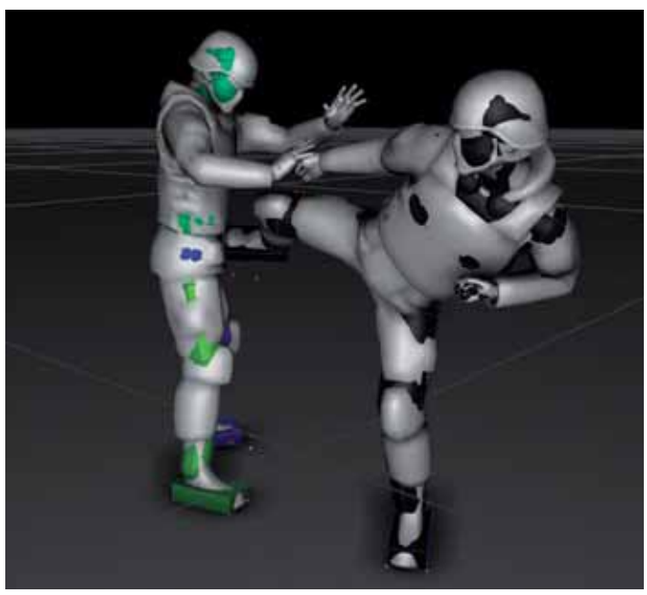
How is the tech made available to studios?
Topping: It does basically come with Morpheme, and it does need PhysX as a physics engine, because the characters are using physics for these movements. That's the set up at the moment. So now there are two versions of Morpheme. One comes without Euphoria, which is licensed as it has always been, and then there is a supplemental charge for the version with Euphoria. And that's available now.

And how many of these behaviours exist within the technology?
Topping: They number in the tens, but the point about them is that their strength is in their combination. You could compare it with LEGO bricks, were a relatively low number of brick shapes let you create near infinite different models.

What about the types of games Euphoria is most suited to?
Cavanagh: It is really for any game with dramatic moments you really want enhanced by natural movement. It will help you make those moments more detailed and believable.

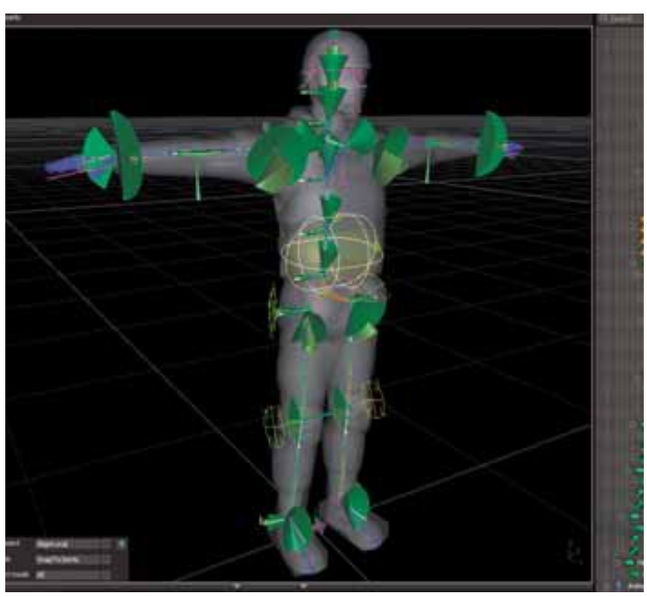
Topping: It's also really well suited to games with things like highly destructible environments, where you don't always know what state your environment will be in. Euphoria lets characters react to worlds where a character may be moving many objects around or affecting the scene. We certainly think it will be popular with those making shooters, and it will really work well with sports games with a lot of character collision. And even for modern driving games.

IK might be perfect for the driver inside a game's car, doing the steering, but maybe you've got a character hanging off the roof of a vehicle waving a machine gun around: Euphoria would be perfect there. Similarly, imagine a game where a character is thrown from a bike or skateboard; that would be a place where Euphoria would be ideal.



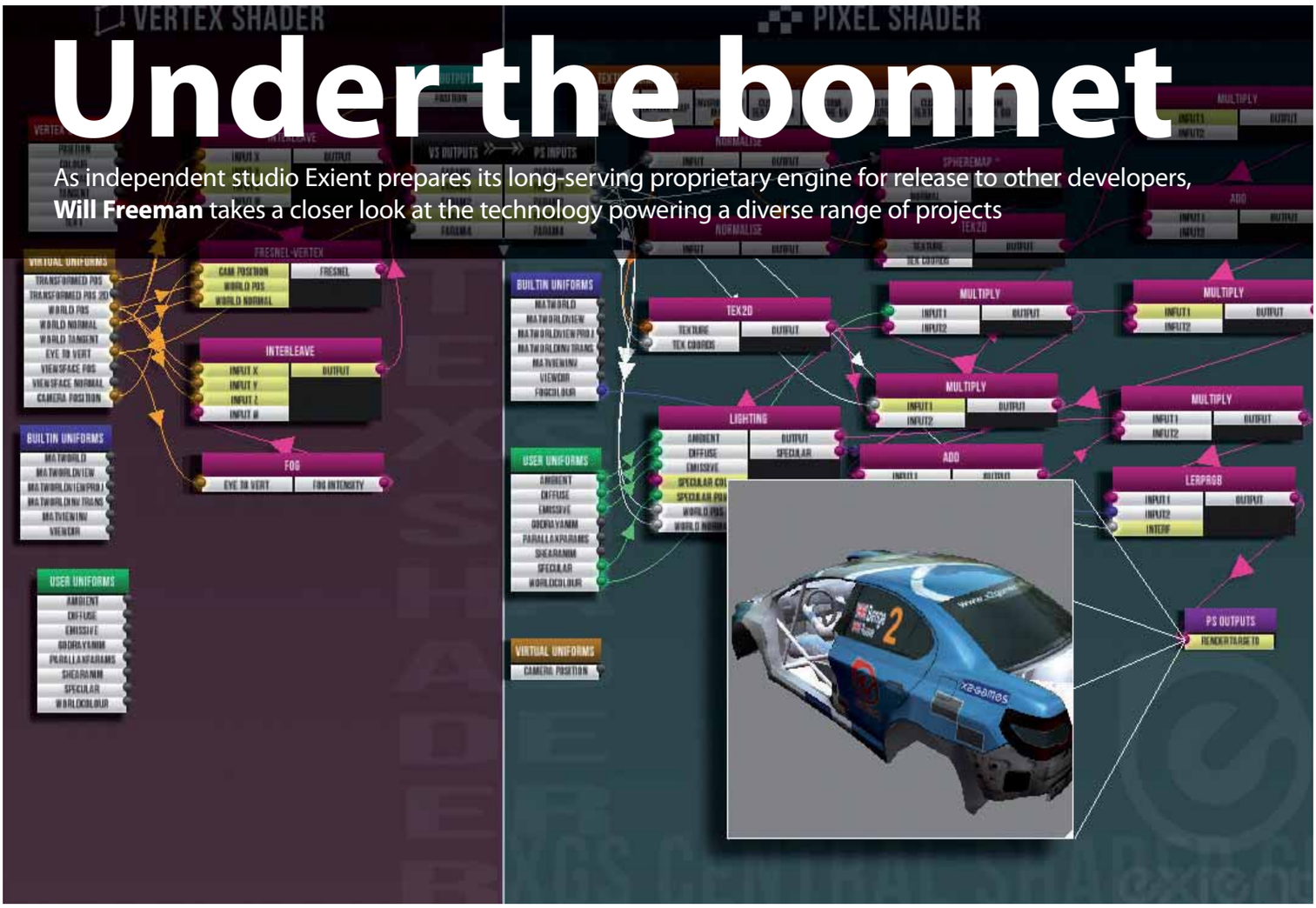
You mention IK there, which is part of Morpheme and many other tools. Considering the job Euphoria does, is it a replacement for IK?
Topping: No, not at all. It's a complimentary technology. There's a limited amount of resource on any piece of hardware, however fast and powerful it is, and you want to balance out what you do where.

If you want a character to open a door, there's no point doing it in anything other than animation with IK, because processor-wise, things like two-bone IK are relatively cheap in terms of cycles, whereas running a full physics rig is harder on that front. IK also has many uses where there is a lot of locomotion. And for things like climbing a ladder, you'd probably use IK systems to make the character hit its handholds. But if you want high quality reactive behaviours, you want Euphoria to make them look fantastic. ■
www.naturalmotion.com/middleware



Under the bonnet

As independent studio Exient prepares its long-serving proprietary engine for release to other developers, **Will Freeman** takes a closer look at the technology powering a diverse range of projects



Exient's Jason Fielder says the studio's game engine XGS offers the flexibility to manage and create many disparate game experiences

THE NOKIA N-GAGE may have had little impact on the global games industry, but for Exient, it was the catalyst for something that continues to be core to the company.

All of Exient's games, be they original or contract titles, are built using the outfit's proprietary cross-platform development technology XGS, which began life as the company pondered the best middleware for Nokia's early game-focused mobile hardware.

"We found the rendering and animation performance to be lacking, when compared to our own test code," says Exient CTO Jason Fielder of the limited N-Gage middleware available at the time. "We decided our best option was to develop our own test code into an engine, and with each new title that we developed over the years, we added more power, features and supported platforms to it."

At the time it was an easy decision to move into proprietary tech. Quite simply, it made more sense for Exient to expend energy building its own engine rather than opt for off-the-shelf solutions and waste the studio's existing, robust code bases. Having decided that a proprietary approach would additionally mean their games would be distinct, and unrestricted by the feature set of a particular middleware, the team opted with committing to fleshing out their own engine.

A BAND APART

But what makes XGS particularly distinct, and what does Exient have planned for the engine?

"One of the fundamental pillars of our technology is flexibility," offers Fielder. "Each feature and system that is added to the engine is done so in a way that does not limit the capabilities of any games built on it and allows the games to highly customise their use of the engine as necessary to suit their purpose. It can just as easily create a football game, a racing game, an FPS or a 2D sprite based game."

> ***"It can just as easily create a football game, a racing game, an FPS or a 2D sprite based game."***
>
> Jason Fielder, Exient

XGS also promises to be a low overhead solution, and boasts a powerful GUI technology that allows highly optimised shaders to be created for next-gen consoles and existing platforms without demanding a single line of shader code. Its animation feature set is broad and powerful, supporting key framing, animation blending and overlaying for partial or full skeleton, inverse kinematics and much else besides. XGS is built with an emphasis on rapid iteration and it comes with all the features that are standards of external middleware. And, importantly, it is ambitiously cross-platform.

"We ensure that creating a game on one platform is easy to transport to another," he explains. "As such, our engine supports the following platforms: PS4, PS3, Xbox One, Xbox 360, Wii U, Wii, Vita, 3DS, PC (64-bit and 32-bit, using DX11 or OpenGL), Mac OS X, iOS, Android, BlackBerry 10, Windows Phone 8 and Metro. Code and data compiled for one platform can typically be ported to another and be seen running at a basic level within an afternoon."

THE ROAD AHEAD

And soon, XGS may be available to your studio, as Fielder and his colleagues plan to buck convention and release its proprietary engine to other games outfits. A road map is already in place create a version of XGS that can be released to other developers; a result of Exient expanding and seeing more game teams across the world get to grips with its core technology.

"We are investing a lot of resource into packaging the engine into a full, distributable SDK that is easy to pick up and use by those who don't have the benefit of the engine's authors sat across the studio from them," states Fielder. "As we do this, we see that we're able to release it to other developers and expand our business in that direction. An attraction for us is that we'll be able to grow and improve the technology faster from the extra external feedback we'll receive, and provide the community with another option to the already established middleware out there."

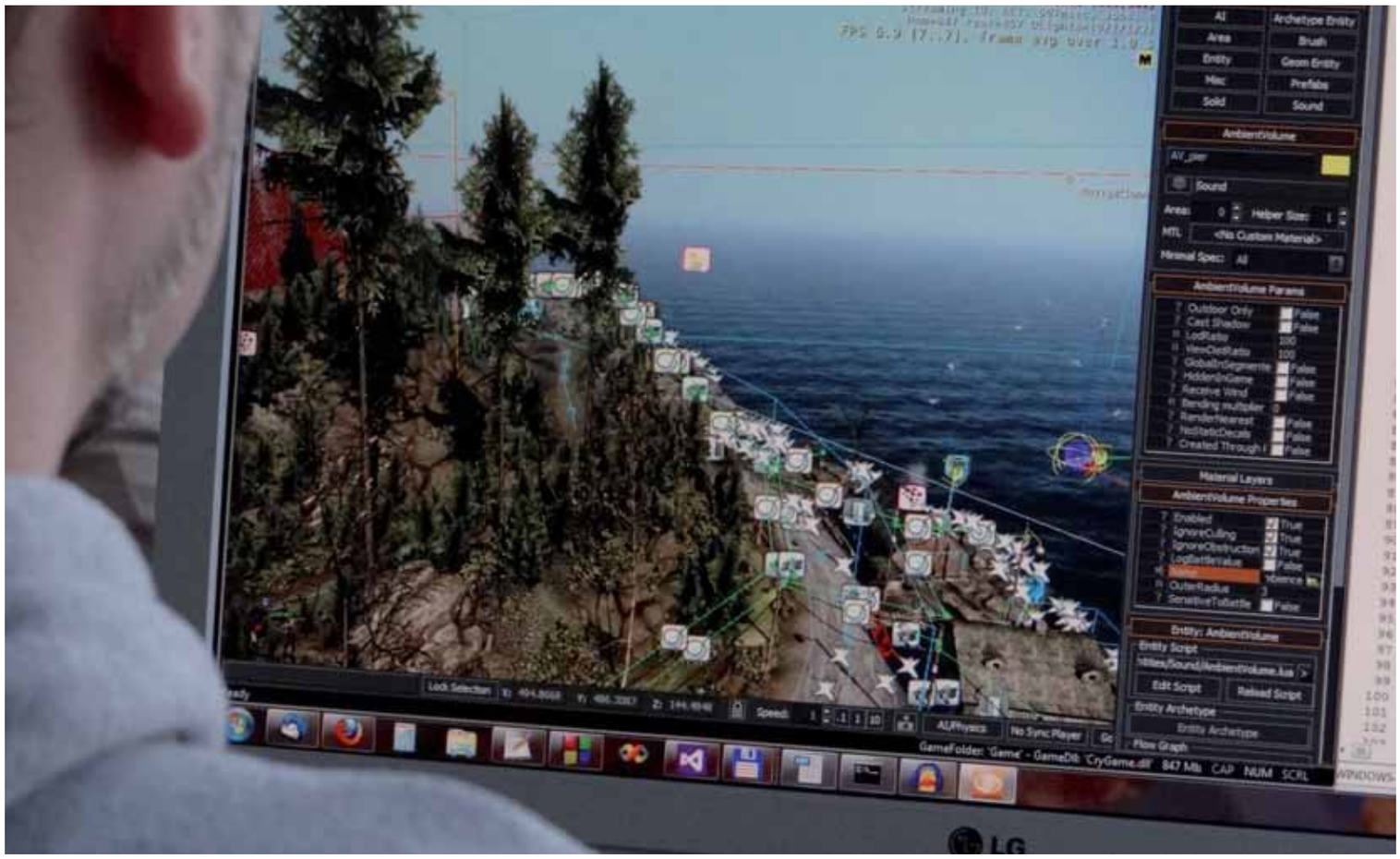
Confident that Exient's technology is a distinct solution, Fielder and his team are ready to share their solution with the world. While no final release date is yet available, the modular engine should be available to studios in the coming months. ■

www.exient.com

KEY RELEASE

Will Freeman looks at a new spatial audio offering from German outfit Iosono

What is it? A pairing of technology and consumer hardware that lets games developers deliver a more detailed, immersive soundscape
Company: Iosono
www.iosono-sound.com



IOSONO, FORMED EIGHT years ago, has long specialised in 3D audio for the cinema and consumer electronics space. And now it is bringing its distinct technology to the games industry.

The company has built its reputation providing audio tech for the likes of conference venues and, at the top end, movie theatres sporting 60 speaker systems and swathes of cabling, where vast rendering power is available to plunge audience members into a detailed soundscape produced by a combination of Iosono's software and hardware.

And now it hopes that it can serve games developers and consumers by bringing a parallel offering to the living room, where players will experience audio in a more natural way that better represents the reality of a 3D soundscape through the Proximity technology.

To deliver its potential in games the set-up requires the use of special Proximity speakers, and tweaks to existing middleware and proprietary tech at the games developer or tool provider's side. It means some investment of effort from both the creator and consumer, but promises to offer refined sound unrivalled by any existing speaker or headphone systems.

CLOSE TO CRYSIS

While the general public may need a little convincing about investing in new hardware – which Iosono is preparing for with a marketing campaign – games studios are already readily embracing the solution, including Crytek, which has recently mixed *Crysis 3*'s audio for Proximity.

"Proximity actually is the right term," offers senior audio designer Christian Schilling. "It brings things closer to your ears. It sounds a bit as if you're using headphones, it simulates that the sound source is really close to your head. That's what I experienced with Proximity; things get much closer than you're used to from common sound systems. It had a bit of a magnetic effect for me."

And it is that 'magnetic effect' that Iosono hopes will make Proximity attractive, in that it will give players a more appealing, immersive game experience by making it less obvious any given speaker in the room is a sound source, instead positioning the audio around the playing space in way that makes it feel more distinct.

"It lets gamers be far more immersed, and have a closer connection with their games," states Iosono CEO Olaf Stepputat. "It will let players have a better sense of the game they are in, so they can drive faster, shoot more accurately and be better at gaming. That will really matter to developers and publishers, as it makes the connection with games even stronger than it was in the past. This is why Proximity is very important, and this is what Iosono can deliver to developers."

UNDERSTANDING AUDIO

For now Proximity is in a beta phase, as Iosono works with games developers to help them better understand both the technology and hardware. Similarly, the company is currently partnering with numerous middleware providers to ready their solutions for the launch of consumer speakers in 2014.

"Now we have started the process of integrating our technology into games middleware, so that it is already there for games developers," says Stepputat. "The prototype is already done for Fmod and for Wwise, and now we are more working with many more integrations. Eventually we will do this for ever relevant games middleware available."

Presently, the company is making available middleware extensions and an SDK to allow developers to ready their game engines for the arrival of the consumer Proximity hardware, which works alongside existing speaker systems. And it's something Schilling would recommend that his contemporaries consider, for one simple reason.

"I think as a sound designer you can control the player's emotions more precisely," he says of Proximity's potential. "The player can really dive into the situation. During a fight for example you feel the enemy coming at you, it actually seems like he's passing you."

If Schilling's enthusiasm for the tech is anything to go by, it appears Iosono's offering is at least worth further investigation. ■

Crytek's Christian Schilling (top) and Iosono's Olaf Stepputat, whose spatial audio tech Proximity (main) is bringing the gameworld alive in the player's living room

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UNREAL DIARIES

A look at Unreal Engine 4's debut on next generation mobile

Unreal Engine 4 is one of the first technologies to be demonstrated in real-time on this Nvidia prototype Project Logan device

AT SIGGRAPH 2013, Epic Games revealed an Unreal Engine 4 PC desktop gaming experience running on Nvidia's next-generation mobile processor, codenamed Project Logan.

What's exciting about this is that Nvidia's new mobile graphics technology is built on Kepler graphics architecture, which is found in its latest generation of PC GPUs.

It's the same Kepler architecture on top of which Epic has created high-end Unreal Engine 4 PC demonstrations – such as *Elemental* and *Infiltrator* – which have taken advantage of more than 2.5 teraflops of computing performance.

In addition, Kepler supports the OpenGL 4.4 feature set, which brings to mobile devices the same high-end graphics hardware capabilities exposed via DirectX 11 on PC games and on next-generation consoles.

More than ever before, developers can create high-end games and ship them across multiple platforms on a wide variety of devices, including tablet, smartphone, Windows, Mac, PlayStation 4 and Xbox One. Nvidia's achievements open up the mobile front of this strategy for anyone using the latest Unreal Engine technology.

While Unreal Engine 3 already powers hundreds of high-quality games, from PC and console to mobile, Unreal Engine 4 has been reimagined for the future of game development, with Epic supporting developers on an entirely new level across major platforms with its most powerful and scalable toolset to date.

This bridges the gap between highly desirable PC game experiences and what Epic and Nvidia are already achieving on mobile devices with Unreal Engine 4 and Logan. Mobile games soon will be built using the same architecture as PC games, following the latest standards, and using the most powerful, scalable tools.

UPCOMING EPIC ATTENDED EVENTS

DICE Europe 2013
September 24th to 25th
London, UK

GameHorizon 2013
September 26th
London, UK

IndieCade 2013
October 3rd to 6th
Los Angeles, USA

*Email **licensing@epicgames.com** for appointments and sign up for Epic's newsletter at unrealengine.com.*

SHEDDING NEW LIGHT ON SHADING

In other SIGGRAPH news, Epic's senior graphics programmer Brian Karis helped present a course entitled 'Physically Based Shading in Theory and Practice', looking at the importance and craft of this subject in modern games and film production, with developers from 2K Games, Autodesk, Pixar Animation Studios, Ready at Dawn Studios, Sony Picture Imageworks, Treyarch Studios, and Ubisoft Entertainment.

The slides and course notes, 'Real Shading in Unreal Engine 4', are available at **unrealengine.com/resources**.

BROADCASTING THE FUTURE OF GAMES

Last but not least, Epic has launched a new channel at **twitch.tv/unrealengine** to provide an additional resource for anyone interested in Unreal Engine technology.

Epic's new home on Twitch will be host to live tutorials, tools walkthroughs, new feature demos, and much more.

Zak Parrish, senior technical writer at Epic and co-author of the award-winning Mastering Unreal Technology series of books, has already hosted programs including 'UDK: An Introduction to Level Streaming' and 'Creating Mobile Games With UDK'.

Archived livestreams are available on Epic's Twitch channel, and also at **www.youtube.com/unrealengine**. ■

Epic is hiring! To find out more visit: **epicgames.com/careers**

FOR MORE SUCCESS STORIES, VISIT: UNREALENGINE.COM/SHOWCASE

HEARD ABOUT

John Broomhall talks to Syndicate 17 co-founder Chanel Summers about artistic expression in game audio

CHANEL SUMMERS BELIEVES passionately that video games, and game audio in particular, should increasingly aspire to greater artistic goals.

"Over the past decade or two, we've taken huge evolutionary leaps forward when measured by quality of execution and advancements in technology," says Summers, who stands as Syndicate 17 co-founder and adjunct professor at USC School of Cinematic Arts' Interactive Media Division. "But as in any art form, real innovation doesn't come from technology, but from the creativity and experimentation of the artists who wield it – I believe video game audio has only just begun to scratch the surface of what's possible artistically."

THE ART OF THE MATTER

All well and good but what does that mean in practice – how do we know when we've produced 'art'?

"The mark of superior sound design, like many art forms – painting, sculpture, theatre, cinema – is one that you don't consciously notice," offers Summers. It works on a person's subconscious, playing with silence, subtlety and tension, manipulating the mood and drawing the player into the game world. It takes advantage of the basic elements of audio aesthetics and utilises devices such as ambiguity, juxtaposition, counter-functional sounds, and misdirection."

Artistic audio, argues Summers, is audio that can be used to craft the story elements of a given game, and control the pacing of gameplay, supporting the narrative, eliciting and influencing emotion, creating mood, shaping perception and reinforcing how players experience game characters.

"However, sadly, in many titles, audio is purely functional simply facilitating gameplay, whilst potential emotional and psychological uses of sound that could lift the game's audio to the level of 'art', are sacrificed in the name of 'utility'," continues Summers, earnestly.

"Every creative endeavour should have an aesthetic to it in my opinion, or else you miss some of the most exciting opportunities to really impact the player and create an incredibly compelling experience. Look at the effort expended by production designers, costume designers, hair and make-up people on films both large and small. Every detail is scrutinised. Every choice has an artistic meaning behind it."

SOUNDS CHALLENGING

Naturally, Summers recognises the unique challenges of an interactive medium - how do you engineer and manipulate a meaningful and dynamic emotional state, while remaining flexible enough to follow where the user chooses to take the action? But it's no excuse for merely functional audio says Summers, pointing to the well-proven aesthetic principles and techniques from other media that are there for the taking.

"For instance, I would argue that the greatest lesson we can learn about how to elevate audio to the level of art is the concept of ambiguity – the idea that works of art are open to multiple meanings or interpretation," she says. "In video games, sound is usually a vehicle for game creators to project their own interpretation of their game in such a way that it cannot easily be misinterpreted. The best works of art however – whether they are films, paintings, pieces of music, stage plays, novels, or whatever – create a relatively large canvas on which the audience can – or in some cases must – fill in many of the details themselves through interpretation."

BEYOND CONTROL

"These creative endeavours require the audience to make certain very personal assumptions about the work they are experiencing, based on their own past experiences and memories, triggering associations that the artist never could have foreseen," Summers continues.

Can it be done in a game? Summers cites *Limbo*, which boasts a soundscape envisioned, experimented with and ultimately realised by a thoughtful sound practitioner with no background in game audio.

But ambiguity is just one weapon in sound psychology's armoury of ideas and techniques, which also include silence and the suspension of sound, subtlety, exploitation of subjective perception, acousmatic audio, empathetic and an empathetic sound, resonance and entrainment, habituation and so on.

"We need to think beyond the notion that sounds are just assets that correspond to actions we see on-screen," Summers concludes. "We need to think beyond the surface meaning of sounds. We also need to be vigilant about going in the opposite direction and creating bad art – audio that is too busy, that's too abstract, that's too overbearing." ■

Chanel Summers (above) of Syndicate 17 says Limbo's (main image) rich soundscape is the work of practitioner with no background in game audio

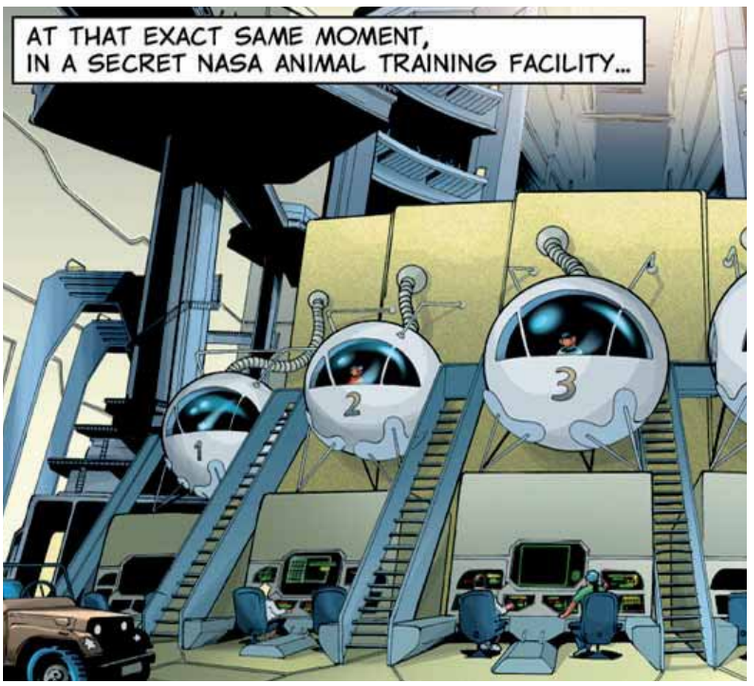
John Broomhall is a games audio specialist, composer, musician and co-founder of Game Music Connect. **www.johnbroomhall.co.uk**

MADE WITH MARMALADE

A look at how Marmalade can save you time, money and more when porting your game to multiple platforms

PROPEL MAN
Developer: Spiel
Platforms: iOS, BlackBerry PlayBook, Windows Phone 8, BlackBerry 10, PC
Why Marmalade Mattered: It helped with saving costs when porting, and let the team bring their game to several new platforms in a matter of days
www.spielstudios.com

6TH PLANET
Developer: Monkube
Platforms: iOS, BlackBerry PlayBook, Windows Phone 8
Why Marmalade Mattered: Reaching so many platforms with relative ease has made Monkube more confident about the commercial success of its work
www.monkube.com



Propel Man (main, left) and 6th Planet (main right) are heading to more platforms thanks to Marmalade, to the delight of their respective developers Mohit Sureka (top) and Sven Van de Perre (bottom).

IT USED to be the case that iOS and Android were enough to satisfy even the most commercially-minded mobile-focused studios.

Even relatively recently, it was enough to target one or two such platforms. But today as the number of releases, studios and hardware options spiral, making a living out of making games means that many must look beyond the two leading mobile OSes. As such, small and medium studios globally are taking their iPhone and Android games to a wider range of platforms than ever, as the likes of Tizen, BlackBerry 10 and Windows Phone 8 increase their hold on the market.

Porting games, however, can be costly, require extra staff and consume swathes of additional time; all of which can lead to decreases in revenue, and creative sacrifices.

Which is where Marmalade's cross-platform SDK comes in. Quite simply, it lets studios port games quickly, with minimum effort, and without the need for extra investment or changes to codebase, accelerating time to market and, ultimately, making your games make you more money.

SPIEL COMMUNICATION

And so it is that increasing numbers of studios, like Spiel, are adopting the Marmalade SDK with cross-platform in mind.

"Using Marmalade was a unanimous decision among our team members in order to take the game across varied platforms," offers Mohit Sureka, founder and CEO of Spiel, which recently used Marmalade to port its game *Propel Man* to various devices.

"It not only helped in saving costs, but also it was much faster to bring the game across several platforms in a matter of a few days. We have used Marmalade to bring *Propel Man* across BlackBerry Playbook, Windows Phone 8, Blackberry 10 and Intel PC," he adds.

What's more, it's not just Marmalade's tech that makes porting a breeze, but also the support that comes with it, as the team at Belgian developers Monkube discovered when porting game-comic fusion *6th Planet*.

"The Marmalade team not only has great tech; they help developers get flat fee and shared revenue deals on smaller platforms," explains Monkube managing and creative director Sven Van de Perre. "All of the *6th Planet* ports we made using the Marmalade engine are profitable. Next to that, Marmalade's tech support works very fast, so if you hit a bump in the road, they're very quick in helping you overcome it."

STRENGTHS IN NUMBERS

Of course, cross-platform-savvy studios like Monkube and Spiel are able to harness all of the Marmalade SDK's other famed strengths, including its core ability to enable multiple platform deployment from a single codebase.

"The best part of using Marmalade is that you can instantly deploy on several platforms without bothering to change any piece of code," confirms Sureka. "The same set of code works for Windows Phone 8, and the same thing would work for say BlackBerry 10 or any other platform. The whole system performs very well."

It's also the ideal solution for developers with a heritage in making PC games that are moving to embrace multiplatform development; a strength Monkube has eagerly embraced.

"The development part of Monkube is based in Romania, where most programmers have a PC background, and are great in C++," says Van de Perre. "Marmalade lets them use that knowledge to the fullest extent."

Clearly then, Marmalade is the perfect tool for taking your game to new platforms with minimum effort, time and cost. And savings across that triptych are an opportunity no studio should ignore.

"As a game development company, you want your game to be played by as many people as possible, and to get this maximum reach you need to get your game accessible to them," affirms Sureka. "In terms of revenue it may not be a big push, but it's important to build your audience and make your presence felt on as many platforms as possible."

Put simply, cross-platform is the future for many mobile studios. Fortunately, they are well supported by Marmalade; over the last 12 months the SDK has enabled numerous developers to deploy their games to BlackBerry 10, Windows Phone 8, Roku and x86 on Android. And the SDK will soon let studios port their games to Tizen with equal ease. As such, Marmalade's cross-platform porting abilities are near unrivalled, and its users primed for success.

Want to see if the Marmalade SDK is for you? Get a free Marmalade license here: **www.madewithmarmalade.com/free**

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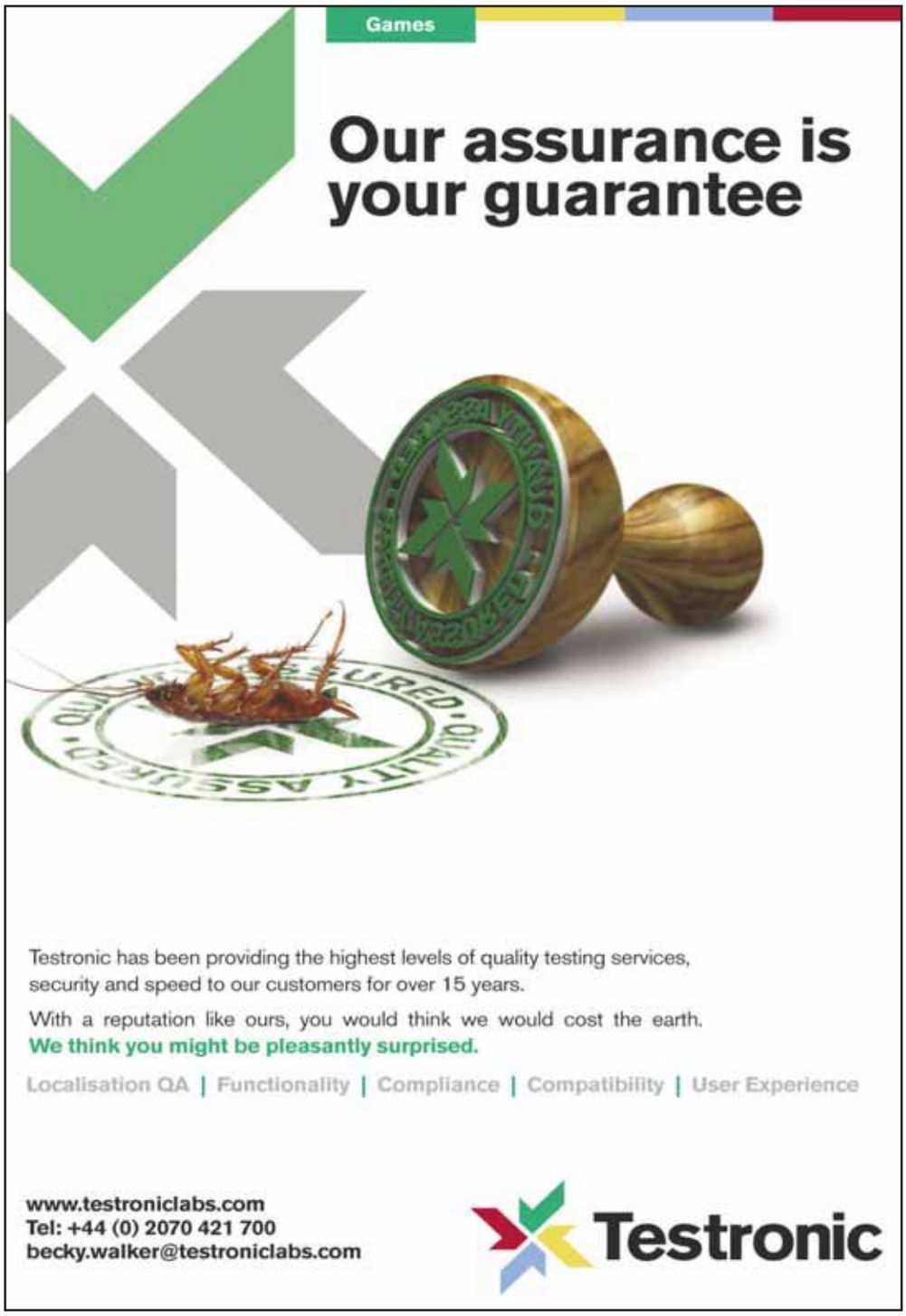
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RECRUITER HOT SEAT

Climax is opening its doors to fresh talent. Here's **Stuart Godfrey** on what to expect and why he wants to hear from you

What differentiates Climax from other developers?
We have a proven and hugely creative team that have a great handle on leading-edge gaming technology that truly love what they do. We actively encourage our staff to have a voice and to contribute ideas. From the most junior of our designers to one of our senior artists, if they have something to say of value then they are listened to. It's key to us that they have ownership of what they do. No one is a cog in a machine at Climax Studios – we are a meritocracy where everyone is encouraged to give their ideas and suggestions. Our 12,000 square feet, open plan, state of the art studio is home to well over a 100 staff across all disciplines. We enjoy a very friendly and relaxed but professional working environment.

How many staff are you currently looking to take on?
We are looking for numerous folk across most of the disciplines at present. There are some truly exceptional opportunities currently available in the coding team for programmers of all levels. We are also on the look out for some very creative and talented special effects artists. Another cracking opportunity that has just opened up is for a user interface artist with an exceptional eye for detail with a strong technical background. A look at our brand new website **www.climaxstudios.com** will give you an excellent idea of what we are currently hiring for and all the relevant details.

We can be found at pretty much all of the games and media industry shows, at home and abroad. We also make great efforts to attend as many graduate and university events as possible; so come and seek us out, as we are always happy to meet with and talk with anyone interested in working with us.

As part of our continued proactive approach to recruitment, September will see us embarking on a multi-city tour of Europe. With the assistance of some of our bilingual staff, we have arranged meet ups and presentations in a number of cities known for their nurturing of video games development talent. We will begin with a pop-up presentation in Rome, from there we will head over to Spain where we have arranged a days of talks and introductions at the University of Madrid before heading on to Portugal, Greece and finally on to Bulgaria and Romania. We have found increasingly that there is some exceptional talent to be found in these countries and felt it made perfect sense to target these exciting markets head on.

What perks or privileges are available to staff at the studio?
Work-wise, by being an independent studio we are not tied to any kind of project and the positive side to this is that we can work on any platform. And not just on any platform but with any technology. We have an excellent and proven team who are all top of their fields. New staff will be able to learn from and have the opportunity to be trained by the best. And because of our incredible team we are able to win first-class projects with a fantastic variety. As a member of Climax Studios, you will be able to get involved in all kinds of

BIO
Name: Stuart Godfrey
Title: Recruitment Manager
Developer: Climax Studios
www.climaxstudios.com

"No one is a cog in a machine at Climax Studios – we are a meritocracy where everyone is encouraged to give their ideas."

Stuart Godfrey, Climax Studios

GET THAT JOB

Development specialists offer advice on how you can bag that career leap

THIS MONTH: QA MANAGER

"Contract testing jobs can be plentiful, but moving out of testing to management takes time and opportunistic vision. Success through learning from past failures, broadening your knowledge of the industry and shared experiences is vital.

"Enjoy the small things: With each challenge, there is always something to be enjoyed, no matter how small. Looking out for these helps keep you focused on emulating these successes.

"Celebrate the people you work with: Appreciating other's talents and abilities and finding ways for them to be expressive with these is rewarding for both of you.

"Finally, don't lose touch: Be hands on, know your product, keep up with the trends in your sector and have fun."

Susan Holman, Studio QA Manager, Avalanche Studios

SIX-SECOND STUDIO SPOTLIGHT

- Stockholm-based Talawa Games is home to nine staff
- "Just as good literature, movies and art, we want to make you feel something through our games," says CEO Jesper Engström
- Its first game, *Unmechanical*, was made with Unreal Engine for PC first, then iOS
- Talawa is now looking at bringing the game to other platforms in future
- It wants to make a difference, be a counterweight to the norm and provide great experiences
- As for the name, Engström says Talawa is a Jamaican expression often used in the sense of 'small yet powerful'

www.talawagames.com

projects on many platforms and in many genres. Which in turn offers all our staff the perfect opportunity to constantly challenge themselves and expand their skill bases.

In terms of employment perks, we offer highly competitive salaries and extensive benefits that include private health care cover, a fruit bar, an excellent holiday package, flexi time, subsidised gym memberships, a Gunwharf Quays discount shopping card and the ever popular Beer Fridays. This all comes with the added bonus of our stunning harbour-side location with sea views across the Solent.

What should aspiring developers do with their CV to get to an interview?
Keep it clean, concise and simple, clearly listing out your skills and aspirations. Where possible, make sure your passion for games and all things development flows through your CV. Direct applicants always get priority as it shows us that they are targeting the job role that they wish to secure. Once the applicant has submitted their CV, it's always good practice to follow this up with an email or a telephone call to ensure the studio has everything they need from them to consider their application fully.

Who is the best interviewee you have ever had?
Without doubt it was a young character artist we met at a university showcase. Her passion and drive to get into the industry really left a mark on me. We kept in touch all through her studies and when she returned to her home country. When we had a position open up, I got back in touch, we interviewed her and shortly after she was offered the job. She went on to become a lead artist within the studio.

And who was the worst?
The very few who fail to turn up to their interviews.

What advice would you give jobseekers for a successful interview at Climax?
Research, research and research. Be prepared and make sure you get across to the company what you want to do and try and be as confident and as passionate as you can. If you are an artist or an animator, bring in your show reel, portfolio and sketchbooks. Designers should come prepared with examples of their work – running in engine, videos and any relevant documents. And finally, coders should bring along any demos or code samples they feel highlight their skills.

If your studio has recruited talent internationally, what was the process like for your studio and for the applicant?
We have been recruiting international talent successfully for many years now and have the process down to a fine art. It's quite a complex and often daunting procedure; however we work hard with the candidates and advise them on all of the required form filling, document checks as well as offering advice on the most effective way for them to work with the Home Office on ensuring a successful application.

NEW STUDIO ALERT!

IN A BID to "escape from the tedium of 17 years of corporate software engineering", Dan Powderhill founded **Diado Gaming** to put his skills to the far more satisfying endeavour of making video games.

Along with studio buddy Alice Sherrin, Powderhill has released a number of different titles since opening the Brighton studio.

Powderhill primarily handles the game design, development and technical side of the business, while Sherrin's background in customer service and sales makes her a good fit for taking care of Diado's PR and marketing needs.

"We're focused on creating our vision of a modern take on retro 2D games. Games that can be fully enjoyed by both relatively casual players and by more dedicated players," Powderhill tells *Develop*.

Diado currently has a bunch of games on the go, including music-based retro game *Equaliser*, a 2D sandbox game and other projects in early phases. The studio is also going to be expanding to Mac and Linux later this year.

Powderhill says: "We'd like to collaborate with a wider range of people in the future too – other developers, artists and musicians – to try and make our games offerings really unique, interesting and, above all, fun."
www.diadogaming.com

MOVERS AND SHAKERS

This month: Remode, One Thumb Mobile, Nordeus and Axis Animation

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Video Games Recruitment

REMODE ■ Remode has hired former Lionhead engineering manager **GARETH LEWIS** as its new technical director.

Lewis will oversee development at the Plymouth-based studio, which is currently working on titles such as strategy game *Burrow*.

"I have known Ella Romanos and Martin Derby for almost a decade, and watched with deep admiration and respect as their studio Remode has grown," said Lewis.

"I am looking forward to overseeing development across the full roster of our games, and am particularly excited about working closely with the team on Remode's upcoming release *Burrow*."

Remode CEO Ella Romanos added: "We have been looking for a new technical director to join our team for some time and Gareth could not be more perfect. His expertise at Lionhead is incredibly valuable to us, in particular as we are focusing on advanced stages of development for *Burrow*, which will be out next year."

Lewis has most recently been working as MD of consultancy firm GazCorp and an associate lecturer at the University of Plymouth, lecturing on Kinect programming with XNA 4.0.

ONE THUMB MOBILE ■ Mobile MMO developer One Thumb Mobile has taken on three new senior hires at its Glasgow studio.

Joining the team are product manager **CHANTAL ZUURMOND** (*left*), animator **ANDREW BRUNTON** (*right*) and character artist **MATTIA PODERI**.

Zuurmond joins OTM from Riot Games, where she worked on *League of Legends* as associate producer. She previously worked at CCP on *EVE Online*.

Brunton has over 12 years experience as a games animator, the majority of which was spent at Lionhead Studios working on the likes of *Black & White 2* and the *Fable* series.

Finally, Poderi joins from Bigpoint in Hamburg, where he worked as a 3D artist on free-to-play browser games.

"OTM is a great development studio with bags of potential and the location is fantastic. I can see great things happening at the studio and I wanted to be a part of that." said Zuurmond.

Brunton added: "I joined OTM to be at the cutting edge of mobile gaming in one of the greatest cities in the world. I love being part of a small team as it offers a whole world of new challenges and opportunities."

NORDEUS ■ *Top Eleven* developer Nordeus has hired former Facebook team lead **KERRIE POWER** to head up its new office in Dublin, Ireland.

She takes up the position of customer relations director, and will head the branch's customer relations, business development and market operations in the region.

"We're really excited to have Kerrie on board with the Nordeus team," said Nordeus CEO Branko Milutinovic. "Her years of expertise in tech and leadership roles at Google and Facebook will offer value to her role as customer relations director in Dublin as we grow the studio."

Power added: "It's a real honour to be part of this talented and diverse team. Nordeus is expanding rapidly, and behind the walls of this success is a close-knit, smart and fun group of people. On top of that, Ireland has some remarkable talent, so this is such an exciting time for Nordeus, and great opportunity for the top talent we have in this country."

Power has previously worked as user operation team lead at Facebook in Ireland, and also as regional IT manager at Google's EMEA HQ in Dublin. Nordeus' new office is expected to take on up to 15 staff.

AXIS ANIMATION ■ Axis Animation has promoted **DEBBIE ROSS** as its new creative executive producer.

Ross has seven years worth of industry experience at the coalface of animation production, and has moved upwards from her role of senior producer at the Glasgow animation firm, which will include handling client relationships and developing new opportunities for the studio.

"I'm delighted to be moving into this new position. It's an exciting time for Axis as we take on ever more challenging and high-profile projects," said Ross.

"My aim is to continue our development as a leading player in video games on the global stage," continued Ross.

Richard Scott, co-founder and executive producer at Axis Animation, commented: "I'm very excited about Debbie's move into the role of executive producer.

"She has been a cornerstone of the studio for many years both with staff and clients."

Services & Tech Recruiter Hot Seat

GameGenetics' head of human resources **Michael Brinkmeier** is in need of mobile experts for this games ad firm

What makes GameGenetics different from other mobile services companies?
From HR perspective it is the mixture of gaming and advertising industry, combined in a different way as a distribution platform, which gives us a huge range of flexibility in all areas from recruiting to staffing.

What benefits do you offer?
Full support on all visa and work permit related issues, relocation support, free drinks, 401k, medical plan, LTD and STD, public transportation tickets, Xbox, kicker and we have three office dogs.

What disciplines are you in need of?
Online games publishing managers, across areas of mobile. Especially on the mobile side we are currently looking for strong sales persons who have a reliable network into the mobile gaming industry. As their back up, we are also in need of account managers, both out of the mobile industry and online industry in general. Additionally, we are looking for new team members who have a media planner background or used to work in the gaming industry as a content manager. And all areas of business are also highly welcome.

How have your needs changed?
Due to focusing more on mobile we have a high need on the sales side of all mobile related positions. Since we are now very well staffed on the IT side and focusing more on mobile we were needing to change our recruitment needs mainly to sales people out of our industry to convince our investors.

What opportunities are there for career progression?
Lots of positions are not filled yet. We are currently able to offer early career stage positions, but also need very experienced high-level senior employees up to director level.

Can you describe some of the skills or personalities you look for in potential employees?
Team fit, relevant industry experience, network, understanding of clients' needs and internet addiction.

Why should perspective employees choose a career in services instead of core games development?
Because we can offer more flexibility in all games-related industries. If someone wants to keep different options open for future career steps

GameGenetics is a company acting as a melting pot for gaming and its service industry. This gives you the chance to turn towards a different directions and career opportunities.
www.gamegenetics.com/jobs

Codemasters

Leamington Spa, UK
www.codemasters.com

Surrounded by the lush greenery of the English countryside is Codemasters. When they're not working away on digital suspension rigs and overclocking cars on the test track, barbecues and ice-cream are on the menu for its staff.

THIS IS **WHERE WE WORK**

Dimensional Imaging

Glasgow, UK
www.did3.com

What does a camera see? Does it see into the mind? Does it see inside you? At Dimensional Imaging, they may well have the answer. Using their custom tech, they can create high quality 4D doppelgängers.

SERVICES SPOTLIGHT

This month: **iLogos Europe**

GERMAN-BASED OUTSOURCER iLogos is an outfit that's ready to assist across all areas of games development.

Since 2006, the firm, which now has a headcount in excess of 200 staff, has been providing 2D and 3D art creation and design services, programming, game design, ongoing maintenance, project management, QA and additional services, such as porting and games optimisation.

"We are a highly professional games development company with extensive experience, a great track record and strong references," iLogos Europe CEO and co-founder Alexander Goldybin (*far right*) tells *Develop*.

The company has completed more than 300 projects, with its experience primarily being in social, browser, mobile and cross-platform games. iLogos has worked on game productions for companies including Peak Games, Playdom, Disney Interactive, Wargaming, National Geographic Games, Xyrality, Social Quantum, Nekki, 6waves, Upjers, FreshPlanet and Youdagames.

For contract work specifically, some of the studio's most successful titles include, *Megapolis* for Social Quantum on Facebook, iOS and Android, a top five grossing app in 40 countries with 20 million players across all platforms; and *Vector*, *Shadow Fight* and *11x11 Football Manager* for Nekki on Facebook, which have each attracted players in their millions.

There are several main reasons that Goldybin says developers should come to iLogos for their outscoring needs. For starters, he says the saving on operating costs typically range from 20 per cent to 60 per cent. It will accelerate the project's time-to-market, and, as a result of spreading the workload out to an external firm, the client will be able to direct their attention to other projects and business matters. For ongoing developments especially, he believes external teams are highly effective. With the help of an external development partner, he adds that a developer can scale up or down teams to reflect their current needs, such as any shortage of local skills and resources, and can avoid burning out its workforce.

Goldybin adds: "In short, usually developers can save a good amount of

This beautiful mural of dragons (above) gives you some sense of iLogos talents, but the studio is also

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ready to handle design, programming, QA and project management for games clients

money for game creation or for live game operation by using an external development partner such as iLogos with a significant acceleration of time-to-market. The best strategy is to focus on the existing strengths in-house and to add the missing parts by using a reliable external development partner."

> ***"We are a highly professional games development company with a great track record and strong references."***
>
> Alexander Goldybin, iLogos

International expansion is next on the company's agenda. Currently, iLogos is focused on the European and the US markets, but is playing special attention to Asia. Furthermore, it is gradually extending the number of co-productions and encouraging developers of all sizes to approach it with project proposals based on a mutual co-investment.

"By choosing us, you're working with a company that has created and/or supported a number of the top games on the international games market, and will share its know-how and expertise with you to do the same with your games and game ideas," offers Goldybin.

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TOOLS SPOTLIGHT

This month: **SpeedTree (Interactive Data Visualization)**

ITS CREATORS MAY not be widely known, but this tool is one that devs large and small will have come across. SpeedTree is a real-time asset creator intended to solve the problem of filling games with believable-looking trees in their tens or even thousands.

SpeedTree for Games aims to provide seamless LOD transitions and comes with an array of lighting and wind effects, as well as an SDK that can be programmed to support any level of engine integration on a broad array of platforms. The software also includes SpeedTree Modeler, which offers a distinct hybrid of hand and procedural modelling options, and has been used in countless games and as well as a growing list of films, including a several of this summer's big-budget releases. The SpeedTree model library currently contains almost 200 species and will continue to grow.

"SpeedTree is focused exclusively on modelling and rendering vegetation, incorporates ten years of feedback from the industry's best artists and programmers, and seeks to address the full range of games-only vegetation problems," Kevin Meredith (*far right*), director of business development at Interactive Data Visualization tells us.

SpeedTree was used to create the dense, twisted forests in the Witcher 2 (above)

SpeedTree has been used in dozens of games. Several recent and yet-to-be-released titles include *Destiny*, the *Witcher* series, the *Saint's Row* series, *Defiance*, *Forza Horizon*, *Grand Theft Auto IV*, *The Walking Dead: Survival Instinct*, *Gears of War: Judgment*, *Halo 4*, *Medal of Honor: Warfighter*, *Fable: The Journey*, *Trials Evolution*, *Kinect Star Wars*, *Sports Champions*, *The Secret World*, *Starhawk*, *Risen 2: Dark Waters* and *Game of Thrones*.

The tree modelling tool has also been utilised in a large number of serious games for organisations including Boeing, EADS, the US Army, the US Air Force, other government agencies and universities worldwide.

SpeedTree 6.3 was announced back in March, and it is now confirmed to support PlayStation 4 and Xbox One. A new 'simplify' feature quickly and easily creates low-polygon models from high definition, cinema-quality models. There's a 'mesh wizard' that aids the

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An example of the kind of variety that can be achieved on high-end platforms using SpeedTree (above)

process of importing custom meshes for use as leaves and obstacles, and performance enhancements have been made to help the computation of ambient occlusion upon saving, double-click zooming and so on. Additionally, the software maker added new price options, including a tools-only licensing option for those who don't require the SpeedTree SDK, opening up its tools to more users.

As for what's next, Meredith told *Develop* that SpeedTree may introduce mobile offerings later this year. In the meantime, it plans to continue adding new features to its products, with improvements suggested by both the SpeedTree team and customers.

Meredith concludes: "SpeedTree isn't right for every games developer, but those who plan to feature a large number of high-end, precisely-modelled trees often find that SpeedTree requires less modelling time and renders more efficiently than any other solution, in-house or commercial."

> ***"Those who plan to feature a large number of trees find that SpeedTree requires less modelling time than any other solution."***
>
> Kevin Meredith, SpeedTree

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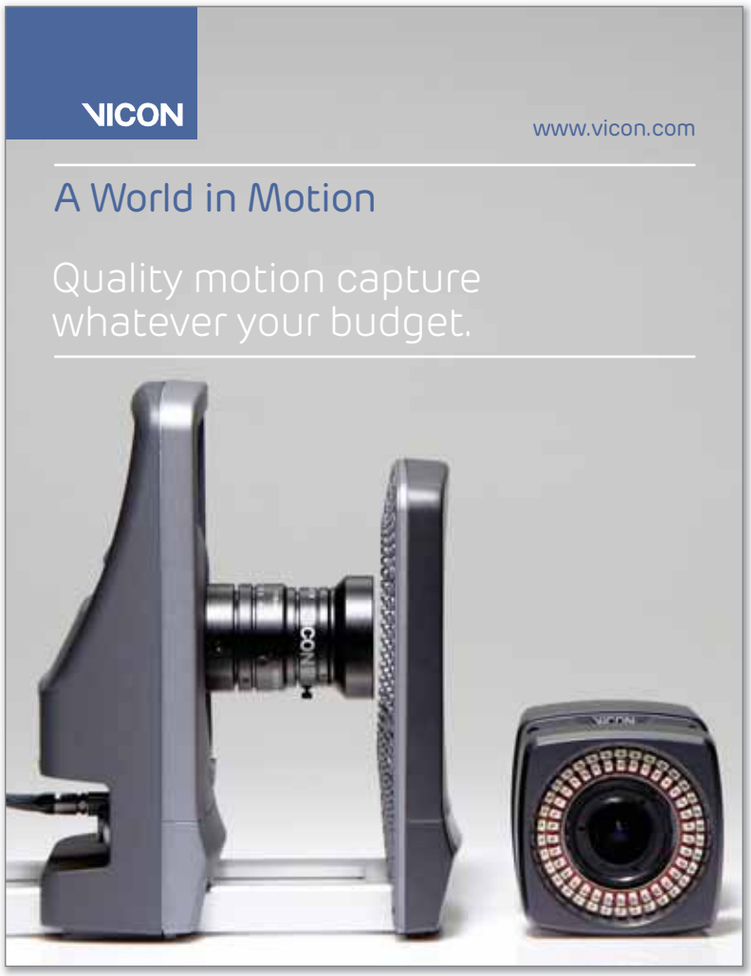

TRAINING SPOTLIGHT

This month: **University of Northampton**

THE UNIVERSITY OF Northampton is relatively new to games education, but already it has attracted support from the likes of Crytek and Jagex.

The institution's course in games programming (BSc/HND Computer Games Development) opened September 2012, and a new course in games art (BA Games Art) is due to begin this September.

"What makes these courses unique from other institutions is that they each have a joint element of group projects, where artists and programmers work together to make games, from the concept idea through to release," subject leader Martyn Simmons explains. "Team work is so important in this industry and this gives our students the opportunity to work with others with different skills sets."

In the first year, the focus is mainly on the development of 2D games aimed at the web or mobile devices. In year two, the focus switches to 3D gaming, where students explore the latest software used in modern triple-A titles. Finally, in the third year, students direct their 3D skills towards the social gaming experience, with a view towards developing their own MMO – a feat which sets Northampton apart from its contemporaries.

And that's not all. "Along with this, we always encourage our students to work on live projects. Simulation is good but nothing can beat the experience gained from creating games that will be played by others. So we encourage all our students to create games that can be hosted for others to experience," says Simmons.

The university is equipped with two up-to-date computer rooms for games development, that host the most current versions of software used in the industry today. Each machine contains the latest software from the Adobe and Autodesk portfolios. It also has access to CryEngine 3, UDK and Unity game engines, as well as consoles and Windows Mobile devices for live testing. What's more, it also has access to 3D technology, that gives students the chance to develop games with the latest VR tech in mind.

These courses are new to the University of Northampton, but Simmons says a number of students from other courses go into the games industry. "We are positive this will start to increase once the current cohort of programmers complete next year," he explains. "As a university, 96 per cent of our students are in employment or further study six months after completing their course."

Developers including Jagex, Crytek and a local independent company called Cinders UK are offering advice and guidance to ensure the course provides students with the necessary skills to make it in the industry today.

> ***"We always aim to offer our students real experience and not just a simulated exposure to the industry."***
>
> Martyn Simmons, University of Northampton

Next up for the course and its students is the creation of their very first MMO in two years' time, with advice and guidance from Jagex. Simmons hopes this will not only give the students experience of creating games, but also the post-production and management skills required when approaching this genre.

"We always aim to offer our students real experience and not just a simulated exposure to the industry. We are lining up more live projects in the areas of mobile gaming and looking to make an impact in the serious games sector, creating MOOKS and virtual simulations," says Simmons. "We also insist that student work should be available for others to play and we believe that students should have the opportunity to showcase their work to the public. We are certain that the University of Northampton will be well known for its games development courses very soon."

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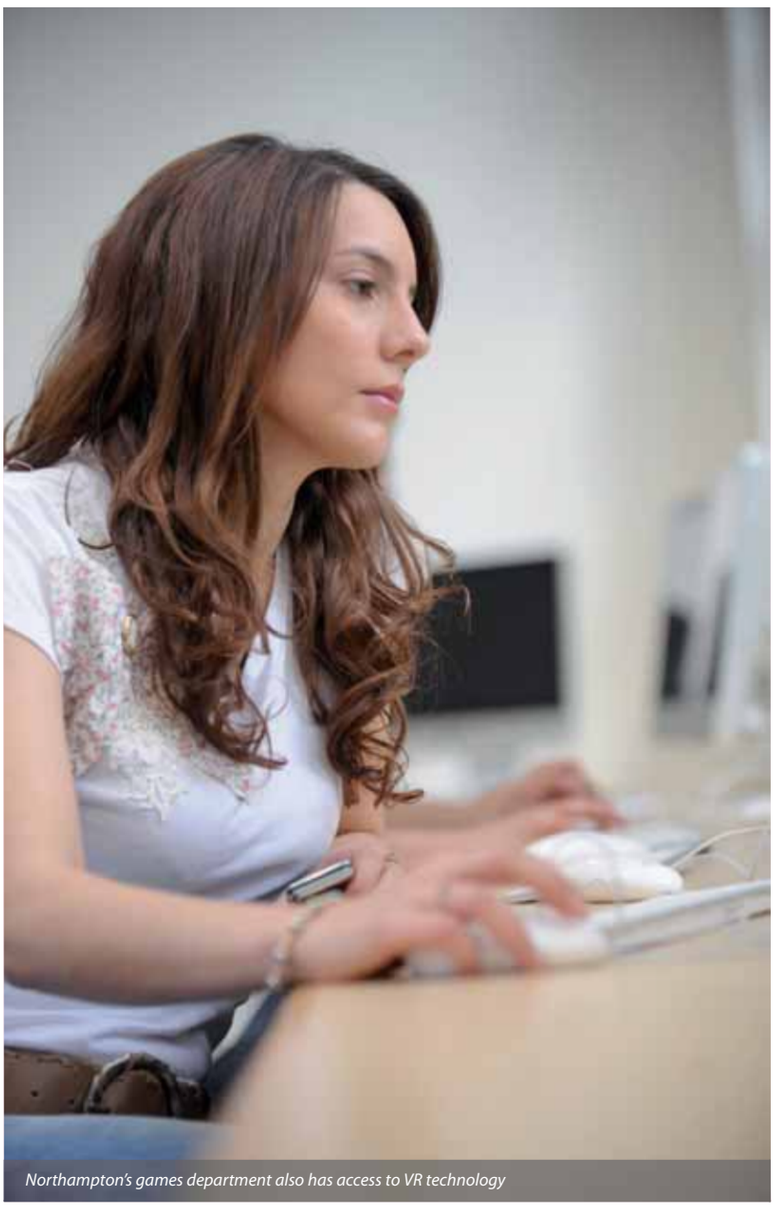
Ninety-six per cent of Northampton students are in jobs or further study six months after their course



Northampton's games department also has access to VR technology

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THE FAQ PAGE: VICTOR KISLYI

Develop grills respected figures from the global games industry

Wargaming's CEO Victor Kislyi, for whom it all began with Chess

Who are you and what do you do?
My name is Victor Kislyi and I am the CEO of Wargaming.

What are you working on right now?
The company has several projects in the pipeline. *World of Warplanes* is quickly approaching release. The naval MMO game *World of Warships* is prepping for global alpha testing. *World of Tanks Blitz* will open up Wargaming's trademark team-based military IP to smartphone and tablet users.

And, *World of Tanks: Xbox 360 Edition* will appeal to console gamers, while *World of Tanks Generals* will enable cross-platform gameplay. We are also building a battle-centric gaming universe that will unite all of them within the global Wargaming.net service. Along with our expansion onto new devices, Wargaming continues to grow its global presence with the establishment of new offices.

What was the first video game or product that you ever worked on in the industry?
The first game I ever worked on was an amateur turn-based strategy game *Iron Age* that I developed together with my friends in 1995. Players were tasked with forming secret alliances and commanding individual units to gain control over territories.

What was the first video game you ever played, and did you enjoy it?
As a high school kid I played *Total Annihilation* a lot. It's what inspired me to create my own games in the first place.

What was the most recent video game you ever played, and did you enjoy it?
I am a huge fan of turn-based strategy games, the *Civilization* franchise being my all-time favourite. I've played and enjoyed every incarnation of *Civ*, and *Civ V* takes up plenty of my gaming time nowadays.

What is your favourite game ever, and for what reason?
World of Tanks, of course. And not just because the project allowed Wargaming to scale and grow into an international company – I have sunk hundreds of hours into the game, because it is totally addictive and never gets repetitive, not even after several thousand battles.

How many hours a week do you spend playing video games?
I play *World of Tanks* daily; at least an hour goes to flight combat in *World of Warplanes*. But I've never actually thought about tracking how many hours a week I spend on gaming.

What area of the industry do you feel needs more 'investment'?
I believe big companies should embrace the fact that free-to-play is no longer a repository for low quality games.

What do you enjoy about the video games industry today?
I'm a strong believer that free online games are the future of the industry. They've been transforming the very concept of quality gaming lately, and I'd like to see what will come out of this trend.

What disappoints you about the video games industry today?
Copycatting is a problem that irritates me most. Wargaming and our growth is an example of how we approached bold development tactics. We were not afraid to tackle games like *World of Warplanes* and *World of Warships* in ways that were completely different than *World of Tanks*.

What other video games developer do you most admire?
I have always admired Chris Taylor and Gas Powered Games. They are really an amazing team. When I first met Chris seven years ago, we talked a lot about our love for real-time military strategy games.

As I have got to know him, it hit me that at our core, we both had the same sort of creative vision. We have met many more times after that, discussed the industry and trends, until we came to realisation that we should collaborate.

Today our teams work closely together, and we will definitely create a new and impressive title in the future.

What hobbies, collections or interests do you have that are completely unrelated to video games?
I like playing chess. It has been a game that I've been very interested in since when I was a kid.

What is your favourite book, movie, TV show and album of all time?
Since I was a child, I have had a taste for historically-focused movies.

At the age of seven years old I watched *Spartacus* by Stanley Kubrick with my father, and this film remains one of my most favourite to this day.

The other genre that I am fond of is action movies. *The Rock* with Sean Connery and Nicolas Cage is a movie that I enjoyed a lot.

I am also very fond of non-fiction books, mostly focused on history. Even though today I mostly reach business literature, I still try to dedicated some reading time to these historical novels and books.

As for my recent favourites, the series of books by Patrick Lencioni – *The Five Temptations of a CEO, The Four Obsessions of an Extraordinary Executive* and so on – have impressed me a lot.

My favourite music bands are Pink Floyd, Queen and the Offspring.

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